

Safety Data Sheet

1,4-Butanediol

SECTION I - IDENTIFICATION

 Ksolv	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtec :..... (800) 424-9300
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Product Number 00091
Product Name 1,4-Butanediol
Synonyms 1,4-Butanediol
CAS Number Not Available
Date Prepared 8/7/2019
Revision Number
Recommended Use US federal requirement and is not part of seller's published specification.

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Acute Toxicity, Oral

Category 4

WARNING!

GHS LABEL:



Hazard Statements

H302 Harmful if swallowed

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Precautionary Statements

P264	Wash... thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P301+312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330	Rinse mouth.
P501	Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
	Not Available	>=99.5%		

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Skin contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Remove and wash contaminated clothing before re-use. Wash off immediately with plenty of water. If symptoms persist, call a physician.

Inhalation: Move person to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, oxygen should be administered by qualified personnel. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; do not use mouth-to-mouth. Use rescuer protection (pocket mask equipped with a one-way valve or other proper respiratory medical device). If experiencing respiratory symptoms call a poison control center or doctor for treatment advice.

Ingestion: If swallowed, rinse mouth with water for at least 15 minutes. Never give anything by mouth to an unconscious person. Consult a physician.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Foam, Dry Powder, Carbon Dioxide, Water Spray, Sand

Special Fire Fighting Procedures Wear self-contained breathing apparatus for fire-fighting if necessary.

Unusual Fire Fighting Hazards: Hazardous Combustion Products: Carbon Oxides
Carbon oxides, Nitrogen oxides (NOx)

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SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8. Wear respiratory protection.

Environmental Precautions: See Section 12 for additional ecological information.

Methods for Cleaning Up: Absorb spill with noncombustible absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

SECTION VII - HANDLING AND STORAGE

Handling and Storage:

- Conditions for safe storage: store locked up. Store in original tightly closed container. Store in a well ventilated place. Store away from incompatible materials.
- Conditions for safe storage: store locked up. Store in original tightly closed container. Store in a well ventilated place. Store away from incompatible materials.
- Keep away from heat and sources of ignition.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
	Not Available		

Engineering Controls: Provide local exhaust or general room ventilation to minimize dust and/or vapor concentrations. Electrical equipment should be grounded and conform to applicable electrical code.

Monitoring: Any clothing or shoes which became contaminated with the product should be removed immediately and thoroughly laundered before wearing again. Have eye wash stations and safety showers readily available. Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use.

Personal Protective Equipment (PPE)

Eye Protection: Wear face-shield and protective suit for abnormal processing problems.

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Skin Protection: Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Protective Gloves and proper PPE attire.

Respiratory Protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colorless
Odor	Almost odorless
pH@25°C	7.2-7.9
Melting/Freezing Point	20.4°C (1,013 hPa)
Flashpoint	115°C
Specific Gravity	1.02 g/cm ³
Solubility	>1,000
Auto-Ignition Temperature	385C
Decomposition Temperature	115°C
VOC Content	
Odor Threshold	n/a
Boiling Range	230°C (1,013 hPa)
Evaporation Point	N/A
Flammable Limits - Upper	N/A
Flammable Limits - Lower	5-15C
Vapor Pressure	0.014 hPa (25°C)
Vapor Density (Air=1)	N/A
Viscosity	84.9 mPa.S (20C)

SECTION X - STABILITY AND REACTIVITY

Stability: Stable under recommended storage conditions.

Conditions to Avoid: Oxidizing agents
Strong oxidizing agents.
Avoid all possible sources of ignition (sparks or flame) Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Hazardous Decomposition/Byproducts: Carbon Monoxide and other toxic vapors.
Carbon oxides (CO, CO₂).
Hazardous decomposition products formed under fire conditions - Carbon Oxides. Other decomposition products - No data available.

Hazardous Polymerization: None known.

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Polymerization Conditions to Avoid: None known.

Incompatibilities: No data available.

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: No known significant effects or critical hazards.

Eye Contact: No data available.

Skin Contact: No data available.

Ingestion: No data available.

Acute Toxicity Value: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Concentrations substantially above the TLV value may cause narcotic effects. Solvents may degrease the skin.

Chronic (Long Term) Effects: CANCER, REPRODUCTIVE & OTHER CHRONIC HAZARDS: This product has no carcinogens listed by IARC, NTP, NIOSH OSHA or ACGIH, as of this date, greater or equal to 0.1%.

Toxicity:

Component Name	LD50	LC50

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity

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SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Low acute toxicity to aquatic life.

Mobility: Low potential for soil absorption expected

Degradability: Readily biodegradeable.

BioAccumulation: BioAccumulation is unlikely.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name:

Contains:

Hazard Class and Label:

Identification Number:

Packaging Group:

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:.....

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X				

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

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No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 1

HMIS Flammability: 1

HMIS Reactivity:

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

Disclaimer: The information contained herein is based upon data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ksolv, Inc. assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by this material. Such vendees, users, or third parties assume all risks associated with use of this product.

Safety Data Sheet

2-Ethyl Hexanol

SECTION I - IDENTIFICATION



K-Solv Chemicals, LLC
9660 Katy Freeway
Houston, TX 77055
(866) 576-5846
Chemtrec :..... (800) 424-9300

Product Number 00012
Product Name 2-Ethyl Hexanol
Synonyms
CAS Number 104-76-7
Date Prepared 5/28/2015
Revision Number 2/1/2019
Recommended Use

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Flammable Liquids	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2A
Acute Toxicity, Inhalation	Category 4
Specific target organ toxicity, single exposure, N	Category 3
Hazardous to the aquatic environment, acute hazard	Category 3

WARNING!

GHS LABEL:



Hazard Statements

H227	Combustible liquid
H315	Causes skin irritation
H319	Causes serious eye irritation
H332	Harmful if inhaled
H336	May cause dizziness or drowsiness
H402	Harmful to aquatic life

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2-Ethyl Hexanol

Precautionary Statements

P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition, sources. No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash... thoroughly after handling.
P271	Use only outdoors or in a well-ventilated are.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+352	IF ON SKIN: Wash with plenty of water/...
p304+340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
P312	Call a POISON CENTER or a doctor/physician if you feel unwell.
P321	Specific treatment (see ... on this label).
P332+313	If skin irritation occurs: get medical advice/attention.
P337+313	If eye irritation persists get medical advice/attention.
P362+364	Take off immediately all contaminated clothing and wash it before reuse.
P370+378	In case of fire: Use(See Section 5 of SDS) to extinguish.
P403	Store in a well ventilated place.
P403+233	Store in a well ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
2- Ethylhexanol	104-76-7	>99.5	Not Established	Not Established

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

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2-Ethyl Hexanol

Inhalation: Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.

Ingestion:

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Carbon Dioxide, dry-chemical or universal type spray foam.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards: Product is flammable and may be ignited by heat, sparks, flames or other sources of ignition (e.g., static electricity, pilot lights or mechanical/electrical equipment). Vapors are heavier than air and may accumulate in low areas. Vapors may travel considerable distance to a source of ignition where they can ignite, flashback or explode. May create vapor/air explosion hazard indoors, outdoors or in sewers. If container is not properly cooled, it can explode in the heat of a fire.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep all sources of ignition and hot metal surfaces away from spill or release.
Any/all persons dealing with the spill should wear appropriate personal protective equipment. Keep others away from spill/leak. Restrict access to area until the spill has been cleaned up.

Environmental Precautions: Prevent liquid from entering drains, sewers or waterways.
Contain spill if it can be done with minimal risk.
Notify proper authorities.

Methods for Cleaning Up: Use proper personal protective equipment. Isolate and secure the area and follow the appropriate emergency guidelines. If local high concentration of airborne mist occurs, dilute spill with plenty of water and ventilate to disperse mist laden air. Sweep up spill and reclaim or place in a covered waste disposal container. Report spill to proper authorities
Using only non-sparking tools and explosion proof equipment, collect spill on absorbent material and put into approved container.

SECTION VII - HANDLING AND STORAGE

Handling and Storage:

- Store in cool, dry, ventilated area away from any heat source. Storage area should be clearly identified and free of obstruction. Keep containers tightly closed and in an upright position when not in use.
- Bond and ground all equipment when transferring from one vessel to another. The use of explosion-proof equipment is recommended.

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2-Ethyl Hexanol

- "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld, braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources.
- Keep containers tightly closed in a dry and well-ventilated place.
- Avoid prolonged breathing of mist or vapor. Wash thoroughly after handling.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
2- Ethylhexanol	104-76-7	Not Established	Not Established

Engineering Controls: Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.

Monitoring: Follow accepted work practices for handling a flammable material. Do not eat, drink or smoke in areas where this chemical is used or stored. Have eye wash stations and safety showers readily available.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Wear safety glasses with un-perforated side shields. Impervious apron and work boots recommend where splashing may occur.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

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2-Ethyl Hexanol

Appearance	Clear, Colorless Liquid
Odor	Mild
pH@25°C	NDA
Melting/Freezing Point	-70°C
Flashpoint	72°C
Specific Gravity	0.833
Solubility	0.07% @ 20°C
Auto-Ignition Temperature	281.9°C
Decomposition Temperature	NDA
VOC Content	NDA
Odor Threshold	NDA
Boiling Range	184.6°C
Evaporation Point	NDA
Flammable Limits - Upper	9.7%
Flammable Limits - Lower	0.88%
Vapor Pressure	<0.1 mmHg @ 20°C
Vapor Density (Air=1)	4.5 (Air=1)
Viscosity	NDA

SECTION X - STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to Avoid: Extreme heat , flame, sparks and other ignition sources.

Hazardous Decomposition/Byproducts: CO, CO₂, and various hydrocarbons under combustion conditions.

Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None known.

Incompatibilities: Strong oxidizing agents

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2-Ethyl Hexanol

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: May be irritating to mucous membranes and respiratory tract
Low to moderate degree of toxicity by inhalation.

Eye Contact: Causes eye irritation including stinging, watering and redness which may result in corneal injury.

Skin Contact: Contact may cause mild skin irritation including redness, burning and drying/cracking of the skin.
redness, itching or swelling

Ingestion: Aspiration hazard. Can enter the lungs during swallowing or vomiting and cause chemical pneumonia and edema.
Moderate to high degree of toxicity by ingestion. May be harmful or fatal if swallowed.

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
2- Ethylhexanol	Oral - Rat - 3,730 mg/kg; Dermal - Rat - > 3,000 mg/kg	Not Established

Reproductive Effects NDA

Teratogenicity Not Relevant to Humans

Mutagenicity Negative

Embryotoxicity NDA

Sensitization to Product Negative

Synergistic Products Not Applicable

Carcinogenicity Not Relevant to Humans

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Harmful to aquatic life.

Mobility: Low potential for soil absorption expected

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2-Ethyl Hexanol

Degradability: Readily biodegradeable.

BioAccumulation: Minimum potential for bioaccumulation.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow Federal, state, and local regulations.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Combustible Liquid, N.O.S.

Contains: 2-Ethylhexanol

Hazard Class and Label: Combustible

Identification Number: NA 1993

Packaging Group: III

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X	X	X		

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

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2-Ethyl Hexanol

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 2

HMIS Flammability: 2

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet:

Email address:

Training necessary:

Disclaimer:



SAFETY DATA SHEET

This Safety Data Sheet Complies With the Requirements of: 29 CFR 1910.1200

Revision Date: 24-Apr-2017

Version 1

1. IDENTIFICATION

Product Identifier

Product Name WAX-SHIELD WS-444

Other Means of Identification

Product Code WS-444

UN/ID no UN1993

Recommended Use of the Chemical and Restrictions on Use

Recommended Use Paraffin Inhibitor.

Details of the Supplier of the Safety Data Sheet

Aegis Chemical Solutions
Corporate Headquarters
4560 Kendrick Plaza Dr., Ste 190
Houston, TX 77032
Telephone: 281-258-4095

Emergency Telephone Number

Company Phone Number 281-258-4095

Emergency Telephone Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This product is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 1
Reproductive Toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 2
Aspiration toxicity	Category 1
Flammable liquids	Category 2

Label Elements

Emergency Overview

Danger

Hazard Statements

Harmful in contact with skin
Harmful if inhaled
Causes skin irritation
Causes serious eye damage

Suspected of damaging fertility or the unborn child
 May cause respiratory irritation
 May cause damage to organs through prolonged or repeated exposure
 May be fatal if swallowed and enters airways
 Highly flammable liquid and vapor



Color Amber

Physical State Liquid

Odor Solvent

Precautionary Statements - Prevention

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Use personal protective equipment as required
 Use only outdoors or in a well-ventilated area
 Wash face, hands and any exposed skin thoroughly after handling
 Do not breathe dust/fume/gas/mist/vapors/spray
 Keep away from heat/sparks/open flames/hot surfaces. — No smoking
 Keep container tightly closed
 Ground/bond container and receiving equipment
 Use explosion-proof electrical/ventilating/lighting/spill-response/equipment
 Use only non-sparking tools
 Take precautionary measures against static discharge
 Keep cool

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 Immediately call a POISON CENTER or doctor/physician
 Call a POISON CENTER or doctor/physician if you feel unwell
 If skin irritation occurs: Get medical advice/attention
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 Wash contaminated clothing before reuse
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
 Do NOT induce vomiting
 In case of fire: Use CO₂, dry chemical, or foam for extinction

Precautionary Statements - Storage

Store locked up
 Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards Not Otherwise Classified (HNOC)

Not applicable

Other Information

- May be harmful if swallowed
- Harmful to aquatic life with long lasting effects
- Toxic to aquatic life

Unknown acute toxicity

5% of the mixture consists of ingredient(s) of unknown toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Chemical Name	CAS No	Weight-%
Xylenes (o-, m-, p- isomers)	1330-20-7	43
Solvent naphtha, petroleum, light aliphatic	64742-89-8	35
Toluene	108-88-3	12

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of First Aid Measures

General Advice	Immediate medical attention is required. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). If symptoms persist, call a physician.
Eye Contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.
Skin Contact	Wash off immediately with plenty of water. Wash contaminated clothing before reuse. If skin irritation persists, call a physician. Immediate medical attention is not required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Inhalation	Remove to fresh air. Call a physician. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Immediate medical attention is not required. Move to fresh air in case of accidental inhalation of vapors. If symptoms persist, call a physician.
Ingestion	Do NOT induce vomiting. Rinse mouth. Drink plenty of water. If symptoms persist, call a physician. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.
Self-protection of the first aider	Remove all sources of ignition. Use personal protective equipment as required.

Most Important Symptoms and Effects, Both Acute and Delayed

Symptoms No information available.

Indication of Any Immediate Medical Attention and Special Treatment Needed

Note to Physicians Treat symptomatically. Any material aspirated during vomiting may cause lung injury. Therefore, emesis should not be induced mechanically or pharmacologically. If it is considered necessary to evacuate the stomach contents, this should be done by means least likely to cause aspiration (such as: Gastric lavage after endotracheal intubation).

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media Do not use a solid water stream as it may scatter and spread fire.

Specific Hazards Arising From the Chemical

Flammable.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge Yes.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency procedures

Personal Precautions Remove all sources of ignition. Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required. Keep people away from and upwind of spill/leak.

Environmental Precautions

Environmental Precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system.

Methods and Material for Containment and Cleaning Up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Dam up. Soak up with inert absorbent material. Use clean non-sparking tools to collect absorbed material. Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Advice on Safe Handling Ensure adequate ventilation, especially in confined areas. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. All equipment used when handling the product must be grounded. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Use with local exhaust ventilation. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray.

Conditions for Safe Storage, Including any Incompatibilities

Storage Conditions Keep tightly closed in a dry and cool place. Keep in properly labeled containers. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep containers tightly closed in a cool, well-ventilated place.

Incompatible Materials Strong oxidizing agents. Strong acids. Chlorinated compounds.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Xylenes (o-, m-, p- isomers) 1330-20-7	STEL: 150 ppm TWA: 100 ppm	TWA: 100 ppm TWA: 435 mg/m ³ (vacated) TWA: 100 ppm (vacated) TWA: 435 mg/m ³ (vacated) STEL: 150 ppm (vacated) STEL: 655 mg/m ³	-
Toluene 108-88-3	TWA: 20 ppm	TWA: 200 ppm (vacated) TWA: 100 ppm (vacated) TWA: 375 mg/m ³ (vacated) STEL: 150 ppm (vacated) STEL: 560 mg/m ³ Ceiling: 300 ppm	IDLH: 500 ppm TWA: 100 ppm TWA: 375 mg/m ³ STEL: 150 ppm STEL: 560 mg/m ³

NIOSH IDLH *Immediately Dangerous to Life or Health*

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate Engineering Controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual Protection Measures, Such as Personal Protective Equipment

Eye/Face Protection Tight sealing safety goggles. Face protection shield.

Skin and Body Protection No special technical protective measures are necessary. Wear protective gloves and protective clothing.

Respiratory Protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State	Liquid	Color	Amber
Odor	Solvent.		
Odor Threshold	No information available		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No information available	
Melting Point/Freezing Point	No information available	
Boiling Point/Boiling Range	> 100 °C / 212 °F	
Flash Point	13 °C / 55 °F	
Evaporation Rate	No information available	
Flammability (solid, gas)		
Flammability Limit in Air		
Upper Flammability Limit:	No information available	
Lower Flammability Limit:	No information available	
Vapor Pressure	No information available	
Vapor Density	No information available	
Specific Gravity	0.82	
Water Solubility	No information available	
Solubility in Other Solvents	Oil soluble	
Partition Coefficient	No information available	
Autoignition Temperature	No information available	
Decomposition Temperature	No information available	
Kinematic Viscosity	No information available	
Dynamic Viscosity	No information available	
Explosive Properties	No information available	
Oxidizing Properties	No information available	

Other Information

10. STABILITY AND REACTIVITY

Reactivity

Stable under normal conditions.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to Avoid

Heat, flames and sparks.

Incompatible Materials

Strong oxidizing agents. Strong acids. Chlorinated compounds.

Hazardous Decomposition Products

Carbon oxides.

11. TOXICOLOGICAL INFORMATION**Information on Likely Routes of Exposure****Product Information**

Information given is based on available data of the components and the toxicology of similar products. The product has not been tested.

Inhalation

Harmful by inhalation. Avoid breathing mist/spray. Aspiration into lungs can produce severe lung damage. May cause irritation of respiratory tract.

Eye Contact

Avoid contact with eyes. Risk of serious damage to eyes.

Skin Contact

Avoid contact with skin. Irritating to skin. Harmful in contact with skin. May be absorbed through the skin in harmful amounts.

Ingestion

May be harmful if swallowed. Potential for aspiration if swallowed. Aspiration may cause pulmonary edema and pneumonitis.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Xylenes (o-, m-, p- isomers) 1330-20-7	= 3500 mg/kg (Rat)	> 4350 mg/kg (Rabbit) > 1700 mg/kg (Rabbit)	= 29.08 mg/L (Rat) 4 h = 5000 ppm (Rat) 4 h
Solvent naphtha, petroleum, light aliphatic 64742-89-8	-	= 3000 mg/kg (Rabbit)	-
Toluene 108-88-3	= 2600 mg/kg (Rat)	= 12000 mg/kg (Rabbit)	= 12.5 mg/L (Rat) 4 h

Information on Toxicological Effects**Symptoms**

Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Delayed and Immediate Effects as Well as Chronic Effects From Short and Long-term Exposure**Sensitization**

Not known to cause allergic reaction.

Germ Cell Mutagenicity

Not known to cause heritable genetic damage.

Carcinogenicity

This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Chemical Name	ACGIH	IARC	NTP	OSHA
Xylenes (o-, m-, p- isomers) 1330-20-7	-	Group 3	-	-
Toluene 108-88-3	-	Group 3	-	-

IARC (International Agency for Research on Cancer)

Group 3 - Not classifiable as a human carcinogen

Reproductive Toxicity	Product is or contains a chemical which is a known or suspected reproductive hazard.
Teratogenicity	Not known to cause birth defects or have a deleterious effect on a developing fetus.
STOT - Single Exposure	May cause respiratory irritation.
STOT - Repeated Exposure	May cause damage to organs through prolonged or repeated exposure.
Chronic Toxicity	Contains a known or suspected reproductive toxin. Avoid repeated exposure. May cause adverse liver effects.
Target Organ Effects	Central nervous system, Eyes, Kidney, Liver, Respiratory system, Skin.
Aspiration Hazard	Risk of serious damage to the lungs (by aspiration). May be fatal if swallowed and enters airways.

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral)	2961 mg/kg
ATEmix (dermal)	1937 mg/kg
ATEmix (inhalation-dust/mist)	3.4 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

6% of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Chemical Name	Algae/Aquatic Plants	Fish	Crustacea
Xylenes (o-, m-, p- isomers) 1330-20-7	-	13.4: 96 h Pimephales promelas mg/L LC50 flow-through 2.661 - 4.093: 96 h Oncorhynchus mykiss mg/L LC50 static 13.5 - 17.3: 96 h Oncorhynchus mykiss mg/L LC50 13.1 - 16.5: 96 h Lepomis macrochirus mg/L LC50 flow-through 19: 96 h Lepomis macrochirus mg/L LC50 7.711 - 9.591: 96 h Lepomis macrochirus mg/L LC50 static 23.53 - 29.97: 96 h Pimephales promelas mg/L LC50 static 780: 96 h Cyprinus carpio mg/L LC50 semi-static 780: 96 h Cyprinus carpio mg/L LC50 30.26 - 40.75: 96 h Poecilia reticulata mg/L LC50 static	3.82: 48 h water flea mg/L EC50 0.6: 48 h Gammarus lacustris mg/L LC50
Solvent naphtha, petroleum, light aliphatic 64742-89-8	4700: 72 h Pseudokirchneriella subcapitata mg/L EC50	-	-
Toluene 108-88-3	433: 96 h Pseudokirchneriella subcapitata mg/L EC50 12.5: 72 h Pseudokirchneriella subcapitata mg/L EC50 static	15.22 - 19.05: 96 h Pimephales promelas mg/L LC50 flow-through 12.6: 96 h Pimephales promelas mg/L LC50 static 5.89 - 7.81: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 14.1 - 17.16: 96 h Oncorhynchus mykiss mg/L LC50 static 5.8: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 50.87 - 70.34: 96 h Poecilia reticulata mg/L LC50 static 11.0 - 15.0: 96 h Lepomis macrochirus mg/L LC50 static 54: 96 h Oryzias latipes mg/L LC50 static 28.2: 96 h Poecilia reticulata mg/L LC50 semi-static	5.46 - 9.83: 48 h Daphnia magna mg/L EC50 Static 11.5: 48 h Daphnia magna mg/L EC50

Persistence and Degradability

No information available.

Bioaccumulation

No information available.

Chemical Name	Partition Coefficient
Xylenes (o-, m-, p- isomers)	2.77 - 3.15

1330-20-7	
Toluene 108-88-3	2.65

Other Adverse Effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging Do not reuse container. Empty drums should be completely drained properly bunged and promptly returned to a drum reconditioner, or properly disposed.

US EPA Waste Number D001.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Xylenes (o-, m-, p- isomers) 1330-20-7	-	Included in waste stream: F039	-	U239
Toluene 108-88-3	U220	Included in waste streams: F005, F024, F025, F039, K015, K036, K037, K149, K151	-	U220

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Toluene 108-88-3	-	-	Toxic waste waste number F025 Waste description: Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.	-

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Xylenes (o-, m-, p- isomers) 1330-20-7	Toxic Ignitable
Toluene 108-88-3	Toxic Ignitable

14. TRANSPORT INFORMATION

DOT

UN/ID no UN1993
Proper Shipping Name Flammable liquids, n.o.s. (contains xylene, toluene)
Hazard Class 3
Packing Group II

Quantity Dependent Shipping Descriptions

Quantity	< 34 gallons
DOT Description	UN1993, Flammable liquids, n.o.s.(contains xylene, toluene), 3, PG II
Quantity	34 - 1218 gallons
DOT Description 2	UN1993, Flammable liquids, n.o.s.(contains xylene, toluene), 3, PG II, RQ (xylene)
Quantity	> 1218 gallons
DOT Description 3	UN1993, Flammable liquids, n.o.s.(contains xylene, toluene), 3, PG II, RQ (xylene, toluene)

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Does not comply
IECSC	Complies
KECL	Does not comply
PICCS	Complies
AICS	Complies

Legend:

- TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS** - Japan Existing and New Chemical Substances
- IECSC** - China Inventory of Existing Chemical Substances
- KECL** - Korean Existing and Evaluated Chemical Substances
- PICCS** - Philippines Inventory of Chemicals and Chemical Substances
- AICS** - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Xylenes (o-, m-, p- isomers) 1330-20-7	100 lb	-	-	X

Toluene 108-88-3	1000 lb	X	X	X
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CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Xylenes (o-, m-, p- isomers) 1330-20-7	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ
Toluene 108-88-3	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

U.S. EPA Label Information

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	Health Hazards 2	Flammability 3	Instability 0	Physical and Chemical Properties -
HMIS	Health Hazards 2*	Flammability 3	Physical Hazards 0	Personal Protection X

Revision Date: 24-Apr-2017

Revision Note:

New

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



SAFETY DATA SHEET

This Safety Data Sheet Complies With the Requirements of: 29 CFR 1910.1200

Revision Date: 20-Jun-2016

Version 2

1. IDENTIFICATION

Product Identifier

Product Name WAX-SHIELD WS-462

Other Means of Identification

Product Code WS-462

UN/ID no UN1993

Recommended Use of the Chemical and Restrictions on Use

Recommended Use Paraffin Inhibitor.

Details of the Supplier of the Safety Data Sheet

Aegis Chemical Solutions
Corporate Headquarters
4560 Kendrick Plaza Dr., Ste 190
Houston, TX 77032
Telephone: 281-258-4095

Emergency Telephone Number

Company Phone Number 281-258-4095

Emergency Telephone Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This product is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Germ Cell Mutagenicity	Category 1A
Carcinogenicity	Category 1B
Reproductive Toxicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 2
Aspiration toxicity	Category 1
Flammable liquids	Category 2

Label Elements

Emergency Overview

Danger

Hazard Statements

Harmful if inhaled
Causes skin irritation
Causes serious eye irritation
May cause genetic defects

Chemical Name	CAS No	Weight-%
Solvent naphtha, petroleum, light aliphatic	64742-89-8	21
Naphtha	8030-30-6	21
Xylenes (o-, m-, p- isomers)	1330-20-7	13
Toluene	108-88-3	12
Solvent naphtha, petroleum, heavy aromatic	64742-94-5	6
Ethylbenzene (impurity)	100-41-4	< 3
Solvent naphtha, petroleum, light aromatic	64742-95-6	1.5
Benzene, 1,2,4-trimethyl-	95-63-6	1.5
Naphthalene	91-20-3	< 1
Cumene	98-82-8	< 0.5

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of First Aid Measures

General Advice	If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing.
Eye Contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.
Skin Contact	Consult a physician if necessary. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Immediate medical attention is not required.
Inhalation	Remove to fresh air. Call a physician. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Immediate medical attention is not required. Move to fresh air in case of accidental inhalation of vapors. If symptoms persist, call a physician.
Ingestion	Do NOT induce vomiting. Rinse mouth. Drink plenty of water. If symptoms persist, call a physician. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.
Self-protection of the first aider	Use personal protective equipment as required.

Most Important Symptoms and Effects, Both Acute and Delayed

Symptoms No information available.

Indication of Any Immediate Medical Attention and Special Treatment Needed

Note to Physicians Treat symptomatically. Any material aspirated during vomiting may cause lung injury. Therefore, emesis should not be induced mechanically or pharmacologically. If it is considered necessary to evacuate the stomach contents, this should be done by means least likely to cause aspiration (such as: Gastric lavage after endotracheal intubation).

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media Do not use a solid water stream as it may scatter and spread fire.

Specific Hazards Arising From the Chemical

Flammable.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge Yes.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency procedures

Personal Precautions Use personal protective equipment as required. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental Precautions

Environmental Precautions Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

Methods and Material for Containment and Cleaning Up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Cover liquid spill with sand, earth or other non-combustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Pick up and transfer to properly labeled containers. Soak up with inert absorbent material. Dam up.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Advice on Safe Handling Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Use with local exhaust ventilation.

Conditions for Safe Storage, Including any Incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.

Incompatible Materials Strong oxidizing agents. Strong acids. Chlorinated compounds.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Naphtha 8030-30-6	-	TWA: 100 ppm TWA: 400 mg/m ³ (vacated) TWA: 100 ppm (vacated) TWA: 400 mg/m ³	IDLH: 1000 ppm TWA: 100 ppm TWA: 400 mg/m ³
Xylenes (o-, m-, p- isomers) 1330-20-7	STEL: 150 ppm TWA: 100 ppm	TWA: 100 ppm TWA: 435 mg/m ³ (vacated) TWA: 100 ppm (vacated) TWA: 435 mg/m ³ (vacated) STEL: 150 ppm (vacated) STEL: 655 mg/m ³	-

Toluene 108-88-3	TWA: 20 ppm	TWA: 200 ppm (vacated) TWA: 100 ppm (vacated) TWA: 375 mg/m ³ (vacated) STEL: 150 ppm (vacated) STEL: 560 mg/m ³ Ceiling: 300 ppm	IDLH: 500 ppm TWA: 100 ppm TWA: 375 mg/m ³ STEL: 150 ppm STEL: 560 mg/m ³
Ethylbenzene (impurity) 100-41-4	TWA: 20 ppm	TWA: 100 ppm TWA: 435 mg/m ³ (vacated) TWA: 100 ppm (vacated) TWA: 435 mg/m ³ (vacated) STEL: 125 ppm (vacated) STEL: 545 mg/m ³	IDLH: 800 ppm TWA: 100 ppm TWA: 435 mg/m ³ STEL: 125 ppm STEL: 545 mg/m ³
Benzene, 1,2,4-trimethyl- 95-63-6	-	-	TWA: 25 ppm TWA: 125 mg/m ³
Naphthalene 91-20-3	TWA: 10 ppm S*	TWA: 10 ppm TWA: 50 mg/m ³ (vacated) TWA: 10 ppm (vacated) TWA: 50 mg/m ³ (vacated) STEL: 15 ppm (vacated) STEL: 75 mg/m ³	IDLH: 250 ppm TWA: 10 ppm TWA: 50 mg/m ³ STEL: 15 ppm STEL: 75 mg/m ³
Cumene 98-82-8	TWA: 50 ppm	TWA: 50 ppm TWA: 245 mg/m ³ (vacated) TWA: 50 ppm (vacated) TWA: 245 mg/m ³ (vacated) S* S*	IDLH: 900 ppm TWA: 50 ppm TWA: 245 mg/m ³

NIOSH IDLH *Immediately Dangerous to Life or Health*

Other Information Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate Engineering Controls

Engineering Controls Showers
Eyewash stations
Ventilation systems.

Individual Protection Measures, Such as Personal Protective Equipment

Eye/Face Protection Tight sealing safety goggles. Face protection shield.

Skin and Body Protection No special technical protective measures are necessary. Wear protective gloves and protective clothing.

Respiratory Protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State Liquid
Odor Solvent. **Color** Light amber
Odor Threshold No information available

Property	Values	Remarks • Method
pH	No information available	
Melting Point/Freezing Point	No information available	
Boiling Point/Boiling Range	> 200 °C / 392 °F	
Flash Point	< 18 °C / < 65 °F	

Evaporation Rate	No information available
Flammability (solid, gas)	
Flammability Limit in Air	
Upper Flammability Limit:	No information available
Lower Flammability Limit:	No information available
Vapor Pressure	No information available
Vapor Density	No information available
Specific Gravity	0.843
Water Solubility	Insoluble in water
Solubility in Other Solvents	No information available
Partition Coefficient	No information available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Kinematic Viscosity	No information available
Dynamic Viscosity	No information available
Explosive Properties	No information available
Oxidizing Properties	No information available

Other Information**10. STABILITY AND REACTIVITY****Reactivity**

Stable under normal conditions.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to Avoid

Heat, flames and sparks.

Incompatible Materials

Strong oxidizing agents. Strong acids. Chlorinated compounds.

Hazardous Decomposition Products

Carbon oxides.

11. TOXICOLOGICAL INFORMATION**Information on Likely Routes of Exposure**

Product Information	Information given is based on available data of the components and the toxicology of similar products. The product has not been tested.
Inhalation	Harmful by inhalation. Avoid breathing vapors or mists.
Eye Contact	Severely irritating to eyes.
Skin Contact	Irritating to skin.
Ingestion	Aspiration may cause pulmonary edema and pneumonitis.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Solvent naphtha, petroleum, light aliphatic 64742-89-8	-	= 3000 mg/kg (Rabbit)	-
Naphtha 8030-30-6	> 5 g/kg (Rat)	> 3 g/kg (Rabbit)	-
Xylenes (o-, m-, p- isomers) 1330-20-7	= 3500 mg/kg (Rat)	> 4350 mg/kg (Rabbit) > 1700 mg/kg (Rabbit)	= 29.08 mg/L (Rat) 4 h = 5000 ppm (Rat) 4 h
Toluene 108-88-3	= 2600 mg/kg (Rat)	= 12000 mg/kg (Rabbit)	= 12.5 mg/L (Rat) 4 h

Solvent naphtha, petroleum, heavy aromatic 64742-94-5	> 5000 mg/kg (Rat)	> 2 mL/kg (Rabbit)	> 590 mg/m ³ (Rat) 4 h
Ethylbenzene (impurity) 100-41-4	= 3500 mg/kg (Rat)	= 15400 mg/kg (Rabbit)	= 17.2 mg/L (Rat) 4 h
Solvent naphtha, petroleum, light aromatic 64742-95-6	= 8400 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	= 3400 ppm (Rat) 4 h
Benzene, 1,2,4-trimethyl- 95-63-6	= 3280 mg/kg (Rat)	> 3160 mg/kg (Rabbit)	= 18 g/m ³ (Rat) 4 h
Naphthalene 91-20-3	= 1110 mg/kg (Rat) = 490 mg/kg (Rat)	(= 1120 mg/kg (Rabbit) > 20 g/kg (Rabbit)	> 340 mg/m ³ (Rat) 1 h
Cumene 98-82-8	= 1400 mg/kg (Rat)	= 12300 µL/kg (Rabbit)	> 3577 ppm (Rat) 6 h = 39000 mg/m ³ (Rat) 4 h

Information on Toxicological Effects

Symptoms No information available.

Delayed and Immediate Effects as Well as Chronic Effects From Short and Long-term Exposure

Sensitization No information available.
Germ Cell Mutagenicity Contains a known or suspected mutagen.
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Xylenes (o-, m-, p- isomers) 1330-20-7	-	Group 3	-	-
Toluene 108-88-3	-	Group 3	-	-
Ethylbenzene (impurity) 100-41-4	A3	Group 2B	-	X
Naphthalene 91-20-3	A3	Group 2A	Reasonably Anticipated	X
Cumene 98-82-8	-	Group 2B	-	X

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

Group 3 - Not classifiable as a human carcinogen

NTP (National Toxicology Program)

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive Toxicity Product is or contains a chemical which is a known or suspected reproductive hazard.
Developmental Toxicity Contains ingredients that have suspected developmental hazards.
Teratogenicity May cause harm to the unborn child.
STOT - Single Exposure No information available.
STOT - Repeated Exposure No information available.
Chronic Toxicity Contains a known or suspected reproductive toxin. Avoid repeated exposure. May cause adverse effects on the bone marrow and blood-forming system. May cause adverse liver effects.
Target Organ Effects Blood, Central nervous system, Eyes, Kidney, Liver, Respiratory system, Skin.
Aspiration Hazard Risk of serious damage to the lungs (by aspiration).

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 4236 mg/kg
ATEmix (dermal) 2493 mg/kg
ATEmix (inhalation-dust/mist) 2.537 mg/l
ATEmix (inhalation-vapor) > 20 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

20% of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Chemical Name	Algae/Aquatic Plants	Fish	Crustacea
Solvent naphtha, petroleum, light aliphatic 64742-89-8	4700: 72 h Pseudokirchneriella subcapitata mg/L EC50	-	-
Naphtha 8030-30-6	4700: 72 h Pseudokirchneriella subcapitata mg/L EC50	9.2: 96 h Lepomis macrochirus mg/L LC50 static	-
Xylenes (o-, m-, p- isomers) 1330-20-7	-	13.4: 96 h Pimephales promelas mg/L LC50 flow-through 2.661 - 4.093: 96 h Oncorhynchus mykiss mg/L LC50 static 13.5 - 17.3: 96 h Oncorhynchus mykiss mg/L LC50 13.1 - 16.5: 96 h Lepomis macrochirus mg/L LC50 flow-through 19: 96 h Lepomis macrochirus mg/L LC50 7.711 - 9.591: 96 h Lepomis macrochirus mg/L LC50 static 23.53 - 29.97: 96 h Pimephales promelas mg/L LC50 static 780: 96 h Cyprinus carpio mg/L LC50 semi-static 780: 96 h Cyprinus carpio mg/L LC50 30.26 - 40.75: 96 h Poecilia reticulata mg/L LC50 static	3.82: 48 h water flea mg/L EC50 0.6: 48 h Gammarus lacustris mg/L LC50
Toluene 108-88-3	433: 96 h Pseudokirchneriella subcapitata mg/L EC50 12.5: 72 h Pseudokirchneriella subcapitata mg/L EC50 static	15.22 - 19.05: 96 h Pimephales promelas mg/L LC50 flow-through 12.6: 96 h Pimephales promelas mg/L LC50 static 5.89 - 7.81: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 14.1 - 17.16: 96 h Oncorhynchus mykiss mg/L LC50 static 5.8: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 50.87 - 70.34: 96 h Poecilia reticulata mg/L LC50 static 11.0 - 15.0: 96 h Lepomis macrochirus mg/L LC50 static 54: 96 h Oryzias latipes mg/L LC50 static 28.2: 96 h Poecilia reticulata mg/L LC50 semi-static	5.46 - 9.83: 48 h Daphnia magna mg/L EC50 Static 11.5: 48 h Daphnia magna mg/L EC50
Solvent naphtha, petroleum, heavy aromatic 64742-94-5	2.5: 72 h Skeletonema costatum mg/L EC50	41: 96 h Pimephales promelas mg/L LC50 1740: 96 h Lepomis macrochirus mg/L LC50 static 45: 96 h Pimephales promelas mg/L LC50 flow-through 2.34: 96 h Oncorhynchus mykiss mg/L LC50 19: 96 h Pimephales promelas mg/L LC50 static	0.95: 48 h Daphnia magna mg/L EC50
Ethylbenzene (impurity) 100-41-4	4.6: 72 h Pseudokirchneriella subcapitata mg/L EC50 438: 96 h Pseudokirchneriella subcapitata mg/L EC50 2.6 - 11.3: 72 h Pseudokirchneriella subcapitata mg/L EC50 static 1.7 - 7.6: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	11.0 - 18.0: 96 h Oncorhynchus mykiss mg/L LC50 static 4.2: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 7.55 - 11: 96 h Pimephales promelas mg/L LC50 flow-through 32: 96 h Lepomis macrochirus mg/L LC50 static 9.1 - 15.6: 96 h Pimephales promelas mg/L LC50 static 9.6: 96 h Poecilia reticulata mg/L LC50 static	1.8 - 2.4: 48 h Daphnia magna mg/L EC50
Solvent naphtha, petroleum, light aromatic 64742-95-6	-	9.22: 96 h Oncorhynchus mykiss mg/L LC50	6.14: 48 h Daphnia magna mg/L EC50
Benzene, 1,2,4-trimethyl- 95-63-6	-	7.19 - 8.28: 96 h Pimephales promelas mg/L LC50 flow-through	6.14: 48 h Daphnia magna mg/L EC50
Naphthalene 91-20-3	0.4: 72 h Skeletonema costatum mg/L EC50	5.74 - 6.44: 96 h Pimephales promelas mg/L LC50 flow-through 1.6: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.91 - 2.82: 96 h Oncorhynchus mykiss mg/L LC50 static 1.99: 96 h Pimephales	2.16: 48 h Daphnia magna mg/L LC50 1.09 - 3.4: 48 h Daphnia magna mg/L EC50 Static 1.96: 48 h Daphnia magna mg/L EC50 Flow through

		promelas mg/L LC50 static 31.0265: 96 h Lepomis macrochirus mg/L LC50 static	
Cumene 98-82-8	2.6: 72 h Pseudokirchneriella subcapitata mg/L EC50	6.04 - 6.61: 96 h Pimephales promelas mg/L LC50 flow-through 4.8: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 2.7: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 5.1: 96 h Poecilia reticulata mg/L LC50 semi-static	0.6: 48 h Daphnia magna mg/L EC50 7.9 - 14.1: 48 h Daphnia magna mg/L EC50 Static

Persistence and Degradability

No information available.

Bioaccumulation

No information available.

Chemical Name	Partition Coefficient
Xylenes (o-, m-, p- isomers) 1330-20-7	2.77 - 3.15
Toluene 108-88-3	2.65
Solvent naphtha, petroleum, heavy aromatic 64742-94-5	2.9 - 6.1
Ethylbenzene (impurity) 100-41-4	3.118
Benzene, 1,2,4-trimethyl- 95-63-6	3.63
Naphthalene 91-20-3	3.3
Cumene 98-82-8	3.55

Other Adverse Effects

No information available.

13. DISPOSAL CONSIDERATIONS**Waste Treatment Methods****Disposal of Wastes**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging

Do not reuse container. Empty drums should be completely drained properly bunged and promptly returned to a drum reconditioner, or properly disposed.

US EPA Waste Number

D001, U055 U165 U220 U239

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Xylenes (o-, m-, p- isomers) 1330-20-7	-	Included in waste stream: F039	-	U239
Toluene 108-88-3	U220	Included in waste streams: F005, F024, F025, F039, K015, K036, K037, K149, K151	-	U220
Ethylbenzene (impurity) 100-41-4	-	Included in waste stream: F039	-	-
Naphthalene 91-20-3	U165	Included in waste streams: F024, F025, F034, F039, K001, K035, K060, K087, K145	-	U165
Cumene 98-82-8	-	-	-	U055

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Toluene	-	-	Toxic waste	-

108-88-3			waste number F025 Waste description: Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.	
Naphthalene 91-20-3	-	-	Toxic waste waste number F025 Waste description: Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.	-

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Naphtha 8030-30-6	Toxic of petroleum or coal tar origin Ignitable of petroleum or coal tar origin
Xylenes (o-, m-, p- isomers) 1330-20-7	Toxic Ignitable
Toluene 108-88-3	Toxic Ignitable
Ethylbenzene (impurity) 100-41-4	Toxic Ignitable
Naphthalene 91-20-3	Toxic
Cumene 98-82-8	Toxic Ignitable

14. TRANSPORT INFORMATION

DOT

UN/ID no UN1993
Proper Shipping Name Flammable liquids, n.o.s. (contains xylene, toluene)
Hazard Class 3
Packing Group II

Reportable Quantity (RQ) This product contains ethylbenzene and naphthalene as an impurities, the reportable quantity given is based on the highest possible amount of ethylbenzene and naphthalene in the product.

Quantity < 109 gallons
DOT Description UN1993, Flammable liquids, n.o.s.(contains xylene, toluene), 3, PG II

Quantity 109 - 948 gallons

DOT Description 2	UN1993, Flammable liquids, n.o.s.(contains xylene, toluene), 3, PG II, RQ (xylene)
Quantity	949 - 1185 gallons
DOT Description 3	UN1993, Flammable liquids, n.o.s.(contains xylene, toluene), 3, PG II, RQ (xylene, naphthalene)
Quantity	1186 - 4063 gallons
DOT Description 4	UN1993, Flammable liquids, n.o.s.(contains xylene, toluene), 3, PG II, RQ (xylene, naphthalene, toluene)
Quantity	> 4063 gallons
DOT Description 5	UN1993, Flammable liquids, n.o.s.(contains xylene, toluene), 3, PG II, RQ (xylene, naphthalene, toluene, ethylbenzene)

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Does not comply
ENCS	Does not comply
IECSC	Does not comply
KECL	Does not comply
PICCS	Does not comply
AICS	Does not comply

Legend:

- TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS** - Japan Existing and New Chemical Substances
- IECSC** - China Inventory of Existing Chemical Substances
- KECL** - Korean Existing and Evaluated Chemical Substances
- PICCS** - Philippines Inventory of Chemicals and Chemical Substances
- AICS** - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
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Xylenes (o-, m-, p- isomers) 1330-20-7	100 lb	-	-	X
Toluene 108-88-3	1000 lb	X	X	X
Ethylbenzene (impurity) 100-41-4	1000 lb	X	X	X
Naphthalene 91-20-3	100 lb	X	X	X

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Xylenes (o-, m-, p- isomers) 1330-20-7	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ
Toluene 108-88-3	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ
Ethylbenzene (impurity) 100-41-4	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ
Naphthalene 91-20-3	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ
Cumene 98-82-8	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

U.S. EPA Label Information

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	Health Hazards 2	Flammability 3	Instability 0	Physical and Chemical Properties -
HMIS	Health Hazards 2*	Flammability 3	Physical Hazards 0	Personal Protection X

Revision Date: 20-Jun-2016

Revision Note:

SDS sections updated:

- 3
- 4
- 5
- 11

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

1. Identification

Product identifier	T Soft Amide C
Other means of identification	
SDS number	320442-01
Recommended use	Surfactant.
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	
Company name	Harcros Chemicals Inc
Address	5200 Speaker Rd. Kansas City, KS 66106 United States
Main Telephone Number	1-913-321-3131
Website	www.harcros.com
E-mail	custserv@harcros.com
Emergency #: CHEMTREC	1-800-424-9300
Emergency #: CHEMTREC	1-703-527-3887 (call collect)

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 1
	Sensitization, skin	Category 1
	Carcinogenicity	Category 2
	Specific target organ toxicity, repeated exposure	Category 2
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2
OSHA defined hazards	Combustible dust	Not applicable
	Pyrophoric gas	Not applicable
	Simple asphyxiant	Not applicable

Label elements



Signal word

Danger

Hazard statement

Harmful if swallowed. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life.

Precautionary statement

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Rinse mouth. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Storage

Store away from incompatible materials. Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store in accordance with local/regional/national/international regulations.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)

None known.

Supplemental information

1.91% of the mixture consists of component(s) of unknown acute oral toxicity. 1.91% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Cocoamide Diethanolamine		68603-42-9	90 - 100
Diethanolamine		111-42-2	5 - < 10
Other components below reportable levels			1 - < 3

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation

Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Ingestion

Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.

Most important symptoms/effects, acute and delayed

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information

IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical

During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent product from entering drains. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and storage

Precautions for safe handling Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Do not get this material in contact with eyes. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Diethanolamine (CAS 111-42-2)	TWA	1 mg/m ³	Inhalable fraction and vapor.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Diethanolamine (CAS 111-42-2)	TWA	15 mg/m ³
		3 ppm

Biological limit values No biological exposure limits noted for the ingredient(s).

Exposure guidelines

US - California OELs: Skin designation

Diethanolamine (CAS 111-42-2) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Diethanolamine (CAS 111-42-2) Can be absorbed through the skin.

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product. It is recommended that users of this product perform a risk assessment to determine the appropriate PPE.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance Clear.

Physical state Liquid.

Form Liquid.

Color Amber.

Odor Slightly soapy.

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range 449.6-719.6°F (232-382°C)

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure Not available.

Vapor density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Dispersible.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not available.

Decomposition temperature	Not available.
Viscosity	1040 cP @25°C
Other information	
Density	8.40 @20°C
Flash point class	Non-combustible.
pH in aqueous solution	9 - 11 (1% in DI water)
Specific gravity	1.05 @20°C

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong acids. Peroxides. Phenols.
Hazardous decomposition products	At thermal decomposition temperatures, carbon monoxide and carbon dioxide.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause damage to organs through prolonged or repeated exposure by inhalation. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye damage.
Ingestion	Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

Acute toxicity Harmful if swallowed. May cause an allergic skin reaction.

Product	Species	Test Results
T Soft Amide C		
Acute		
Dermal		
LD50	Rabbit	166 ml/kg estimated
Oral		
LD50	Rat	3535 mg/kg estimated
Components	Species	Test Results
Cocoamide Diethanolamine (CAS 68603-42-9)		
Acute		
Oral		
LD50	Rat	> 5000 mg/kg
Diethanolamine (CAS 111-42-2)		
Acute		
Dermal		
LD50	Rabbit	11.9 ml/kg

Components	Species	Test Results
Oral LD50	Rat	710 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin irritation.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Respiratory or skin sensitization		
Respiratory sensitization	Not a respiratory sensitizer.	
Skin sensitization	May cause an allergic skin reaction.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	Suspected of causing cancer.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Cocoamide Diethanolamine (CAS 68603-42-9)	2B Possibly carcinogenic to humans.	
Diethanolamine (CAS 111-42-2)	2B Possibly carcinogenic to humans.	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		
Not listed.		
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Specific target organ toxicity - single exposure	Not classified.	
Specific target organ toxicity - repeated exposure	May cause damage to organs through prolonged or repeated exposure.	
Aspiration hazard	Not an aspiration hazard.	
Chronic effects	May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.	

12. Ecological information

Ecotoxicity	Toxic to aquatic life.		
Product	Species		Test Results
T Soft Amide C			
Aquatic			
Crustacea	EC50	Daphnia	861.084 mg/l, 48 hours estimated
Fish	LC50	Fish	18219.6602 mg/l, 96 hours estimated
Components	Species		Test Results
Diethanolamine (CAS 111-42-2)			
Aquatic			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	61.8 - 86.04 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	100 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability	No data is available on the degradability of this product.		
Bioaccumulative potential			
Partition coefficient n-octanol / water (log Kow)			
Diethanolamine			-1.43
Mobility in soil	No data available.		
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.		

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN3082
UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (Diethanolamine)
Transport hazard class(es)	
Class	9
Subsidiary risk	-
Label(s)	9
Packing group	III
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	8, 146, 335, IB3, T4, TP1, TP29
Packaging exceptions	155
Packaging non bulk	203
Packaging bulk	241

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

DOT



15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Diethanolamine (CAS 111-42-2) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
 Immediate Hazard - Yes
 Delayed Hazard - Yes
 Fire Hazard - No
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Diethanolamine	111-42-2	5 - < 10

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Diethanolamine (CAS 111-42-2)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations**US - California Candidate Chemicals: Listed**

Cocoamide Diethanolamine (CAS 68603-42-9)

US - California Candidate Chemicals: Listed on initial list

Diethanolamine (CAS 111-42-2)

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Massachusetts RTK - Substance List

Diethanolamine (CAS 111-42-2)

US. New Jersey Worker and Community Right-to-Know Act

Diethanolamine (CAS 111-42-2)

US. Pennsylvania Worker and Community Right-to-Know Law

Diethanolamine (CAS 111-42-2)

US. Rhode Island RTK

Diethanolamine (CAS 111-42-2)

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Cocoamide Diethanolamine (CAS 68603-42-9) Listed: June 22, 2012

Diethanolamine (CAS 111-42-2) Listed: June 22, 2012

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	06-04-2015
Revision date	06-04-2015
Version #	02
HMIS® ratings	Health: 3* Flammability: 1 Physical hazard: 0
NFPA ratings	Health: 3 Flammability: 1 Instability: 0

Disclaimer

Harcros cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information provided in this Material Safety Data Sheet has been obtained from sources believed to be reliable. Harcros Chemicals Inc., provides no warranties, either expressed or implied and assumes no responsibility for the accuracy or completeness of the data contained herein. This information is offered for your information, consideration, and investigation. You should satisfy yourself that you have all current data relevant to your particular use. Harcros Chemicals Inc., knows of no medical condition, other than those noted on this Material Safety Data Sheet, which are generally recognized as being aggravated by exposure to this product.

Revision Information Transport Information: Material Transportation Information

Section 1. Identification

Product name : ARFLOW™ 7135D PARAFFIN INHIBITOR
™ a trademark of Baker Hughes Incorporated.

Product code : ARFL7135D

Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Paraffin Inhibitor.

Print date : 12/22/2015.

Validation date : 12/22/2015.

Version : 1.01

Supplier's details : Baker Petrolite LLC
12645 W. Airport Blvd.
Sugar Land, TX 77478
For Product Information/SDSs Call: 800-231-3606
(8:00 a.m. - 5:00 p.m. CST, Monday - Friday) 281-276-5400

Emergency telephone number (with hours of operation) : CHEMTREC: 800-424-9300 (U.S. 24 hour)
Baker Petrolite: 800-231-3606
(001)281-276-5400
CANUTEC: 613-996-6666 (Canada 24 hours)
CHEMTREC Int'l 01-703-527-3887 (International 24 hour)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN CORROSION/IRRITATION - Category 2
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [Narcotic effects] - Category 3

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : Causes skin irritation.
Suspected of causing cancer.
May cause drowsiness and dizziness.

Precautionary statements

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves: > 8 hours (breakthrough time): Nitrile or Neoprene gloves. 4H gloves.. Use only outdoors or in a well-ventilated area. Avoid breathing dust. Wash hands thoroughly after handling.

Section 2. Hazards identification

- Response** : IF exposed or concerned: Get medical attention. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical attention.
- Storage** : Store locked up.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Supplemental label elements** : Avoid contact with skin and clothing. Wash thoroughly after handling.
- Hazards not otherwise classified** : Prolonged or repeated contact may dry skin and cause irritation.
- Additional information**

When this product is heated above its melting point, contact with the heated product will cause thermal burns to the skin and eyes.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Heavy aromatic naphtha	10 - 20	64742-94-5
Light aromatic naphtha	1 - 5	64742-95-6
1,2,4-Trimethylbenzene	1 - 5	95-63-6
Naphthalene	1 - 5	91-20-3
Cumene	0.1 - 1	98-82-8

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Continue to rinse for at least 10 minutes. Check for and remove any contact lenses. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Section 4. First aid measures

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness.
- Skin contact** : Causes skin irritation. Defatting to the skin.
- Ingestion** : Can cause central nervous system (CNS) depression. Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

- Eye contact** : pain or irritation, watering, redness
- Inhalation** : nausea or vomiting, headache, drowsiness/fatigue, dizziness/vertigo, unconsciousness
- Skin contact** : irritation, redness, dryness, cracking
- Ingestion** : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

Specific hazards arising from the chemical : No specific fire or explosion hazard.

- Hazardous thermal decomposition products** : carbon dioxide, carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Move containers from spill area. Approach release from upwind. Dike spill area and do not allow product to reach sewage system or surface or ground water. Notify any reportable spill to authorities. (See section 12 for environmental risks and 13 for disposal information.) Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

If RQ (Reportable Quantity) is exceeded, report to National Spill Response Office at 1-800-424-8802.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredients:	List name	ppm	mg/m ³	Other	ppm	mg/m ³	Other	ppm	mg/m ³	Other	Notations
1,2,4-Trimethylbenzene	US ACGIH	25	123	-	-	-	-	-	-	-	
	OSHA PEL 1989	25	125	-	-	-	-	-	-	-	
Naphthalene	US ACGIH	10	52	-	-	-	-	-	-	-	[1]
	OSHA PEL	10	50	-	-	-	-	-	-	-	
Cumene	OSHA PEL 1989	10	50	-	15	75	-	-	-	-	
	US ACGIH	50	-	-	-	-	-	-	-	-	
	OSHA PEL	50	245	-	-	-	-	-	-	-	[1]
	OSHA PEL 1989	50	245	-	-	-	-	-	-	-	[1]

[1] Absorbed through skin.

Consult local authorities for acceptable exposure limits.

Only components of this product with established exposure limits appear in the box above.

If OSHA permissible exposure levels are shown above they are the OSHA 1989 levels or are from subsequent OSHA regulatory actions. Although the 1989 levels have been vacated the 11th Circuit Court of Appeals, Baker Hughes recommends that these lower exposure levels be observed as reasonable worker protection.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Wear chemical safety goggles. When transferring material wear face-shield in addition to chemical safety goggles.

Hand protection : Chemical-resistant gloves: Nitrile or Neoprene gloves. 4H gloves.

Skin protection : Wear long sleeves to prevent repeated or prolonged skin contact.

Respiratory protection : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Solid. [Opaque.]

Color : Brown. [Light]

Odor : Aromatic hydrocarbon.

Odor threshold : Not available.

pH : 4 to 6 [Conc. (% w/w): 5%]
: 5% of product in 75% isopropanol / 25% water solution

Melting/freezing point : 35 to 37.2°C (95 to 99°F)

Boiling point : Not available.

Initial Boiling Point : Not available.

Flash point : Closed cup: 62.2 to 79.4°C (144 to 174.9°F) [SFCC]

Burning time : Not available.

Section 9. Physical and chemical properties

Burning rate	: Not available.
Evaporation rate	: Not available.
Flammability (solid, gas)	: Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Lower and upper explosive (flammable) limits	: Not available.
Vapor pressure	: 0.17 kPa (1.3 mm Hg) @ 37.8°C (Calculated Value for all Components.)
Vapor density	: >1 [Air = 1]
Relative density	: 0.88 (60°C)
Density	: 7.33 (lbs/gal)
Solubility in water	: Insoluble
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Dynamic (60°C): 215 to 237 cP
VOC	: Not available.
Pour Point	: Not available.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Heavy aromatic naphtha	LC50 Inhalation Vapor	Rat	>11.4 mg/l	6 hours
	LD50 Oral	Rat	3200 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-
Light aromatic naphtha	LD50 Oral	Rat	2900 mg/kg	-
	LC50 Inhalation Vapor	Rat	18000 mg/m ³	4 hours
	LD50 Oral	Rat	5 g/kg	-
Naphthalene	LD50 Dermal	Rabbit	>20 g/kg	-
	Cumene	LC50 Inhalation Vapor	Mouse	10000 mg/m ³
Cumene	LC50 Inhalation Vapor	Rat	39000 mg/m ³	4 hours
	LD50 Dermal	Rabbit	10600 mg/kg	-
	LD50 Oral	Rat	2.9 g/kg	-

Section 11. Toxicological information

Irritation/Corrosion

No applicable toxicity data

Sensitization

No applicable toxicity data

Mutagenicity

No applicable toxicity data

Carcinogenicity

Product/ingredient name	OSHA	IARC	NTP
Naphthalene	-	2B	Reasonably anticipated to be a human carcinogen.
Cumene	-	2B	Reasonably anticipated to be a human carcinogen.

Reproductive toxicity

No applicable toxicity data

Teratogenicity

No applicable toxicity data

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Heavy aromatic naphtha	Category 3	Not applicable.	Narcotic effects
Light aromatic naphtha	Category 3	Not applicable.	Narcotic effects
1,2,4-Trimethylbenzene	Category 3	Not applicable.	Respiratory tract irritation
Cumene	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not applicable.

Aspiration hazard

Name	Result
Heavy aromatic naphtha	ASPIRATION HAZARD - Category 1
Light aromatic naphtha	ASPIRATION HAZARD - Category 1
Cumene	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure : Routes of entry anticipated: Dermal, Inhalation.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Section 11. Toxicological information

Teratogenicity	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	8320.8 mg/kg
Inhalation (vapors)	511 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
1,2,4-Trimethylbenzene	Acute LC50 4910 µg/l Marine water	Crustaceans - Elasmopus pecteniscus	48 hours
Naphthalene	Acute LC50 22.4 mg/l Fresh water	Fish - Tilapia zillii	96 hours
	Acute EC50 1.6 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 2350 µg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 213 µg/l Fresh water	Fish - Melanotaenia fluviatilis - Larvae	96 hours
Cumene	Chronic NOEC 0.67 ppm Fresh water	Fish - Oncorhynchus kisutch	40 days
	Acute EC50 2600 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute LC50 7400 to 11290 µg/l Fresh water	Crustaceans - Artemia sp.	48 hours
	Acute LC50 30500 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 2700 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours

Persistence and degradability

Not available.

Other adverse effects	: No known significant effects or critical hazards.
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Section 13. Disposal considerations

Disposal methods	: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
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Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	UN3256	UN3256	UN3256	Not available.
UN proper shipping name	ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S. (Contains: Heavy aromatic naphtha, Light aromatic naphtha)	ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S. (Contains: Heavy aromatic naphtha, Light aromatic naphtha)	ELEVATED TEMPERATURE LIQUID, FLAMMABLE, N.O.S. (Contains: Heavy aromatic naphtha, Light aromatic naphtha)	Forbidden
Transport hazard class(es)	3 	3 	3 	Not available.
Packing group	III	III	III	-
Environmental hazards	No.	No.	No.	No.
Additional information	Remarks This material is not regulated if transported at a temperature <62.2C (144F).	Remarks This material is not regulated if transported at a temperature <62.2C (144F).	Emergency schedules (EmS) F-E S-E Remarks This material is not regulated for transportation if shipped at a temperature <62.2C (144F).	-

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

DOT Reportable Quantity Naphthalene, 4973 lbs of this product.

Marine pollutant Not available.

North-America NAERG : 128

Section 15. Regulatory information

U.S. Federal regulations : TSCA 12(b) one-time export: No products were found.
 TSCA 12(b) annual export notification: No products were found.
 United States inventory (TSCA 8b): All components are listed or exempted.
 Clean Water Act (CWA) 307: Naphthalene
 Clean Water Act (CWA) 311: Naphthalene; Xylene

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

SARA 302/304 : No products were found.

SARA 311/312

Classification : Immediate (acute) health hazard
 Delayed (chronic) health hazard

SARA 313

	Product name	CAS number	%
Supplier notification	1,2,4-Trimethylbenzene	95-63-6	1 - 5
	Naphthalene	91-20-3	1 - 5

Canada

Canada (CEPA DSL): : All components are listed or exempted.

Section 16. Other information

National Fire Protection Association (U.S.A.)



History

Date of printing : 12/22/2015.

Indicates information that has changed from previously issued version.

Notice to reader

NOTE: The information on this SDS is based on data which is considered to be accurate. Baker Hughes, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This SDS was prepared and is to be used for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Safety Data Sheet

Aromatic 100

SECTION I - IDENTIFICATION



K-Solv Chemicals, LLC
9660 Katy Freeway
Houston, TX 77055
(866) 576-5846
Chemtrec :..... (800) 424-9300

Product Number 00003
Product Name Aromatic 100
Synonyms
CAS Number Multiple
Date Prepared 5/15/2015
Revision Number 8/12/2019
Recommended Use Industrial Use Only

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Flammable Liquids	Category 3
Aspiration Hazard	Category 1
Skin Corrosion/Irritation	Category 3
Specific target organ toxicity, single exposure, R	Category 3
Specific target organ toxicity, single exposure, N	Category 3
Hazardous to the aquatic environment, long-term hazard	Category 2

DANGER!

GHS LABEL:



Hazard Statements

H226	Flammable liquid and vapor
H304	May be fatal if swallowed and enters airways
H316	Causes mild skin irritation
H335	May cause respiratory irritation
H336	May cause dizziness or drowsiness
H411	Toxic to aquatic life with long lasting effects

Safety Data Sheet

Aromatic 100

Precautionary Statements

P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition, sources. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/light.../ equipment, etc.
P242	Use only non-sparking tools.
P243	Take precautionary measures to prevent static discharge.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P271	Use only outdoors or in a well-ventilated are.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER or a doctor/physician if you feel unwell.
P331	Do NOT induce vomiting.
P332+313	If skin irritation occurs: get medical advice/attention.
P370+378	In case of fire: Use(See Section 5 of SDS) to extinguish.
P391	Collect spillage.
P403+233	Store in a well ventilated place. Keep container tightly closed.
P403+235	Store in a well ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Light Aromatic Solvent Naphtha	64742-95-2	< 100%	Not Established	Not Established
Dimethylbenzene (Mixed Isomers)	1330-20-7	0-1%	100 ppm	100 ppm
1,2,4-Trimethylbenzene	95-63-6	0-25%	25 ppm	25 ppm
Cumene	98-82-8	0-3%	50 ppm	50 ppm

Safety Data Sheet

Aromatic 100

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

Inhalation: Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.

Ingestion: If swallowed. Wash out mouth thoroughly with water and give plenty of water to drink.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Carbon Dioxide, dry-chemical or universal type spray foam.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards: Product is flammable and may be ignited by heat, sparks, flames or other sources of ignition (e.g., static electricity, pilot lights or mechanical/electrical equipment). Vapors are heavier than air and may accumulate in low areas. Vapors may travel considerable distance to a source of ignition where they can ignite, flashback or explode. May create vapor/air explosion hazard indoors, outdoors or in sewers. If container is not properly cooled, it can explode in the heat of a fire.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep all sources of ignition and hot metal surfaces away from spill or release. Evacuate all unprotected personnel from the area.

Environmental Precautions: Contain spill if it can be done with minimal risk. Prevent liquid from entering drains, sewers or waterways. Notify proper authorities.

Methods for Cleaning Up: Use foam on spills to minimize vapors. Using only non-sparking tools and explosion proof equipment, collect spill on absorbent material and put into approved container.

SECTION VII - HANDLING AND STORAGE

Handling and Storage:

- Avoid prolonged breathing of mist or vapor. Wash thoroughly after handling. Vent container carefully before opening. Bond and ground all equipment when transferring from one vessel to another. The use of explosion-proof equipment is recommended. "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld,

Safety Data Sheet

Aromatic 100

braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources. Keep containers tightly closed when not in use.

- Keep away from ignition sources. Be cautious of any drips or spills as product is extremely slippery. Do not enter confined spaces without appropriate equipment and procedures. Electrostatic charge may accumulate and create a hazardous condition when handling this material. Bond and ground lines and equipment used during transfer to reduce the possibility of static spark-initiated fire.
- Store containers in a cool, dry, ventilated, fire resistant area away from sources of ignition and incompatible materials. Keep container tightly closed and properly labeled.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Light Aromatic Solvent Naphtha	64742-95-2	Not Established	Not Established
Dimethylbenzene (Mixed Isomers)	1330-20-7	100 ppm	100 ppm
1,2,4-Trimethylbenzene	95-63-6	25 ppm	25 ppm
Cumene	98-82-8	50 ppm	50 ppm

Engineering Controls: Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.

Monitoring: Follow accepted work practices for handling a flammable material. Do not eat, drink or smoke in areas where this chemical is used or stored. Have eye wash stations and safety showers readily available.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Impervious solvent resistant gloves. Impervious apron and work boots recommend where splashing may occur.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Safety Data Sheet

Aromatic 100

Appearance	Clear, Colorless Liquid
Odor	Distinct Solvent Odor
pH@25°C	-
Melting/Freezing Point	-
Flashpoint	115°F
Specific Gravity	0.874
Solubility	Negligible
Auto-Ignition Temperature	-
Decomposition Temperature	-
VOC Content	100% (7.28 #/gal)
Odor Threshold	-
Boiling Range	322°F
Evaporation Point	0.27 (Butyl Acetate=1)
Flammable Limits - Upper	6.2%
Flammable Limits - Lower	0.9%
Vapor Pressure	>5mmHg@20°C
Vapor Density (Air=1)	3.5
Viscosity	-

SECTION X - STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: Extreme heat , flame, sparks and other ignition sources.

Hazardous Decomposition/Byproducts: Oxides of carbon and various hydrocarbons under extreme fire conditions.

Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None known.

Incompatibilities: Strong oxidizing agents

Safety Data Sheet

Aromatic 100

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: May be irritating to mucous membranes and respiratory tract

Eye Contact: Causes eye irritation including stinging, watering and redness which may result in corneal injury.

Skin Contact: Contact may cause mild skin irritation including redness, burning and drying/cracking of the skin. No harmful effects from skin adsorption are expected.

Ingestion: Aspiration hazard. Can enter the lungs during swallowing or vomiting and cause chemical pneumonia and edema.

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects:

Toxicity:

Component Name	LD50	LC50
Light Aromatic Solvent Naphtha	Not Established	Not Established
Dimethylbenzene (Mixed Isomers)	Oral - rat - 2,840 mg/kg; Dermal - rabbit - 4,500 mg/kg	Inhalation - rat - 4H/6,350 mg/l
1,2,4-Trimethylbenzene	Oral - Rat - male - 6,000 mg/kg	Inhalation - rat - 4H/18 mg/l
Cumene	Oral: 1400mg/kg (RAT) ; Oral: 2700mg/kg (RAT) Dermal: 12300	Inhalation: LC50 >3577ppm (Rat 6h) LC50 = 3900mg/m3 (RAT 4h)

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity Not Listed as a Carcinogen

Safety Data Sheet

Aromatic 100

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Information not available.

Mobility: Information not available.

Degradability: No data available.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow Federal, state, and local regulations. This substance, when discarded, is a hazardous waste due to its ignitability.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Petroleum Distillates, N.O.S.

Contains: 1,2,4-trimethylbenzene

Hazard Class and Label: 3

Identification Number: UN 1268

Packaging Group: III

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... All components are Listed a Active on the U.S. EPA TSCA Active Inventory List.

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X	X	X		

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

Safety Data Sheet

Aromatic 100

Component Name	CAS #	% by wt.
Dimethylbenzene	1330-20-7	0-1%
Pseudocumene	95-63-6	0-25%
Cumene	98-82-8	0-3%

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

Component Name	CAS #	% by wt.	RQ (lbs.)
Dimethylbenzene	1330-20-7	0-1%	100
Cumene	98-82-8	0-3%	5,000

CALIFORNIA PROPOSITION 65:

This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

SECTION XVI - OTHER INFORMATION

HMIS Health: 2

HMIS Flammability: 2

HMIS Reactivity: 0

Additional: NFPA Health: 2*
NFPA Flamability: 3
NFPA Instability: 0

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

Disclaimer: The information contained herein is based upon data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ksolv, Inc. assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by this material. Such vendees, users, or third parties assume all risks associated with use of this product.

Safety Data Sheet

Axi Surf 22C

SECTION I - IDENTIFICATION

	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtrec :..... (800) 424-9300
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Product Number 7122019
Product Name Axi Surf 22C
Synonyms
CAS Number Multiple
Date Prepared
Revision Number
Recommended Use

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Flammable Liquids	Category 3
Acute Toxicity, Oral	Category 5
Serious Eye Damage/Eye Irritation	Category 2A
Specific target organ toxicity, single exposure	Category 2

WARNING!

GHS LABEL:



Hazard Statements

H226	Flammable liquid and vapor
H303	May be harmful if swallowed
H319	Causes serious eye irritation
H371	May cause damage to organs

Safety Data Sheet

Axi Surf 22C

Precautionary Statements

P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition, sources. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/light.../ equipment, etc.
P242	Use only non-sparking tools.
P243	Take precautionary measures to prevent static discharge.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash... thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
P308+311	IF exposed or concerned: Call POISON CENTER/doctor/physician
P312	Call a POISON CENTER or a doctor/physician if you feel unwell.
P337+313	If eye irritation persists get medical advice/attention.
P370+378	In case of fire: Use(See Section 5 of SDS) to extinguish.
P403+235	Store in a well ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Methoxypropoxypropanol	34590-94-8		100 ppm	100 ppm
2-Propanol	67-63-0		400ppm	200ppm (TWA)
INHIBITOR	PROPRIETARY			

SECTION IV - FIRST AID MEASURES

Contact with eyes: Immediately flush eyes with large amounts of water or saline solution for at least 15 minutes, occasionally lifting the upper and lower lids. Remove contact lenses, if present and easy to do, after first 2 minutes continue rinsing. If irritaiton persists, seek medical attention, preferably from an ophthalmologist.

Safety Data Sheet

Axi Surf 22C

- Skin contact:** Flush skin with large amounts of water while removing contaminated clothing. Wash the affected area with soap followed by thorough rinsing. Wash contaminated clothing and shoes before reuse. If irritation persists, seek medical attention.
- Inhalation:** If product mist or vapor causes respiratory irritation or distress, move person to fresh air immediately. If breathing is difficult or irregular, administer oxygen; if respiratory arrest occurs, start artificial respiration by trained personnel. If unconscious, maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. If symptoms persist or if the victim feels unwell, seek medical attention.
- Ingestion:** Rinse mouth with water if the victim is conscious. Remove dentures, if present. DO NOT induce vomiting unless directed to do so by medical personnel. Vomiting may occur spontaneously. To prevent aspiration of material into the lungs, lay the victim on one side with the head lower than the waist. Never give anything by mouth to an unconscious or convulsing person. Do not leave the victim unattended. Seek immediate medical attention.

SECTION V - FIREFIGHTING MEASURES

- Suitable Extinguishing Media:** Use extinguishing media such as water spray or fog, carbon dioxide, foam and dry chemical.
- Special Fire Fighting Procedures** Flammable vapors may be heavier than air.
May travel long distances along the ground before igniting and flashing back to vapor source.
Move containers from fire area if it can be done without risk.
- Unusual Fire Fighting Hazards:** Water jets or streams may spread the fire.

SECTION VI - ACCIDENTAL RELEASE MEASURES

- Personal Precautions:** evacuate non essential personnel. Wear appropriate protective clothing and equipment designated in section 8.2. ventilate the area. Remove all sources of ignition. No smoking. Clean up spill immediately.
- Environmental Precautions:** This product is miscible in water. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways.
Avoid dispersal of spilled material or runoff and prevent contact with soil and entry into drains, Sewers or waterways.
- Methods for Cleaning Up:** approach spill from upwind direction. Cover drains and contain spill. Cover spill with a large quantity of inert absorbent. Do not use combustible material such as sawdust. Collect material using non-sparking tools and place into an approved container for proper disposal. Observe possible material restrictions (sections 7.2 and 10.5) do not allow material or runoff from rinsing contaminated areas to enter floor drains or storm drains and ditches that lead to waterways. Dispose of via a licensed waste disposal contractor.

Safety Data Sheet

Axi Surf 22C

SECTION VII - HANDLING AND STORAGE

- Handling and Storage:**
- Wear all appropriate personal protective equipment specified in section 8.2. do not get in eyes or on skin or clothing. Do not inhale mist or vapor. No smoking. If normal use of material presents a respiratory hazard, use only adequate ventilation or wear na appropriate respirator.
 - Store in dry, cool, well ventilated areas away from incompatible materials (see section 10.5), food and drink. Keep away from heat and ignition sources. Transfer only to approved containers having correct labeling. Keep containers tightly closed when not in use. Protect containers against physical damage. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Containers are hazardous when empty as they contain product residues. Do not cut, drill, weld, braze, solder grind or perform similar operations on or near emty containers. Use appropriate containment to avoid environmental contamination. Ventilate closed areas. Do not take internall. Keep locked up and out of reach of children.
 - Keep away from heat and sources of ignition.
 - Wash thoroughly after handling.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Methoxypropoxypropanol	34590-94-8	100 ppm	100 ppm
2-Propanol	67-63-0	400ppm	200ppm (TWA)
INHIBITOR	PROPRIETARY		

Engineering Controls: Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. Use adequate ventilation. Local exhaust is preferable.

Monitoring: Facilities storing or using this materail should be equipped with an eyewash station and safety shower. Change contaminated clothing. Preventive skin protection is recommended. Wash hands thoroughly after use, before eating, drinking, smoking, or using the lavatory.

Personal Protective Equipment (PPE)

Eye Protection: Wear safety glasses with unperforated side shields or protective splash goggles during use.

Skin Protection: Wear appropriate protective gloves and clothing to prevent skin exposure. Use PPE that is chemical resistant to the product and prevents skin contact.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

Safety Data Sheet

Axi Surf 22C

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, pale yellow to yellow liquid
Odor	characteristic
pH@25°C	5-8
Melting/Freezing Point	
Flashpoint	23°C (73.4°F)
Specific Gravity	
Solubility	Dispersible
Auto-Ignition Temperature	
Decomposition Temperature	
VOC Content	
Odor Threshold	
Boiling Range	
Evaporation Point	
Flammable Limits - Upper	
Flammable Limits - Lower	
Vapor Pressure	
Vapor Density (Air=1)	
Viscosity	

SECTION X - STABILITY AND REACTIVITY

Stability: Stable under recommended storage conditions.

Conditions to Avoid: Avoid temperatures exceeding the flash point. Contact with incompatible materials.

Hazardous Decomposition/Byproducts: Thermal decomposition may yield oxides of carbon.

Hazardous Polymerization:

Polymerization Conditions to Avoid:

Incompatibilities: Strong acids. Strong bases. Strong oxidizers
Strong oxidizing agents.

Safety Data Sheet

Axi Surf 22C

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure:

Inhalation: May cause respiratory tract irritation. Inhalation of vapors may cause drowsiness and dizziness.

Eye Contact: Causes serious eye irritation.

Skin Contact: May cause skin irritation

Ingestion:

Acute Toxicity Value:

Chronic (Long Term) Effects:

Toxicity:

Component Name	LD50	LC50
Methoxypropoxypropanol	Oral - Rat - 5,152 mg/kg	Not Established
2-Propanol	Oral - Rat - 5,045 mg/kg - Dermal - Rabbit - 12,800 mg/kg	Inhalation - Rat - 8 h - 16000 ppm
INHIBITOR		

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Large discharges or spills of this material to the environment may be harmful to aquatic organisms. Methanol is dangerous to aquatic life in high

Safety Data Sheet

Axi Surf 22C

concentrations.

Mobility:

Degradability:

BioAccumulation:

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Petroleum Distillates, N.O.S.
Contains: Contains Isopropanol, Glycol ether dpm
Hazard Class and Label: 3
Identification Number: UN 1993
Packaging Group: III
Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:.....

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X		X		

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

Component Name	CAS #	% by wt.
Glycol Ether	Not Available	

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

Safety Data Sheet

Axi Surf 22C

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 2

HMIS Flammability: 3

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

Disclaimer: The information contained herein is based upon data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ksolv, Inc. assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by this material. Such vendees, users, or third parties assume all risks associated with use of this product.

Safety Data Sheet

P-100 Base Oil

SECTION I - IDENTIFICATION



K-Solv Chemicals, LLC

9660 Katy Freeway

Houston, TX 77055

(866) 576-5846

Chemtec :..... (800) 424-9300

Product Number KS0008
Product Name P-100 Base Oil
Synonyms
CAS Number Multiple
Date Prepared 2/2/2016
Revision Number
Recommended Use Industrial Use Only

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Aspiration Hazard

Category 1

DANGER!

GHS LABEL:



Hazard Statements

H304 May be fatal if swallowed and enters airways

Safety Data Sheet

P-100 Base Oil

Precautionary Statements

P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331	Do NOT induce vomiting.
P405	Store locked up.
P501	Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Light Paraffinic Hydrotreated Distillate	64742-55-8		5mg/m ³ (Mist)	5mg/m ³ (Mist)
Heavy Paraffinic Hydrotreated Distillate	64742-54-7		5 mg/m ³ (Mist)	5 mg/m ³ (Mist)

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

Inhalation: Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.

Ingestion: If swallowed. Wash out mouth thoroughly with water and give plenty of water to drink.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Carbon Dioxide, dry-chemical or universal type spray foam.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards:

Safety Data Sheet

P-100 Base Oil

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep all sources of ignition and hot metal surfaces away from spill or release. Evacuate all unprotected personnel from the area.

Environmental Precautions: Contain spill if it can be done with minimal risk. Prevent liquid from entering drains, sewers or waterways. Notify proper authorities.

Methods for Cleaning Up: Use absorbent materials such as sand, earth or vermiculate on land spills. Use absorbent booms or skimming devices on water spills

SECTION VII - HANDLING AND STORAGE

Handling and Storage:

- Keep away from ignition sources. Be cautious of any drips or spills as product is extremely slippery. Do not enter confined spaces without appropriate equipment and procedures. Electrostatic charge may accumulate and create a hazardous condition when handling this material. Bond and ground lines and equipment used during transfer to reduce the possibility of static spark-initiated fire.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Light Paraffinic Hydrotreated Distillate	64742-55-8	5mg/m ³ (Mist)	5mg/m ³ (Mist)
Heavy Paraffinic Hydratreated Distillate	64742-54-7	5 mg/m ³ (Mist)	5 mg/m ³ (Mist)

Engineering Controls: Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.

Monitoring: Do not eat, drink or smoke in areas where this chemical is used or stored.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Impervious solvent resistant gloves. Impervious apron and work boots recommend where splashing may occur.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Safety Data Sheet

P-100 Base Oil

Appearance	water white to straw yellow liquid
Odor	hydrocarbons
pH@25°C	no data available
Melting/Freezing Point	< 10°F
Flashpoint	> 320°F, 177°C
Specific Gravity	0.85
Solubility	negligible
Auto-Ignition Temperature	no data
Decomposition Temperature	no data available
VOC Content	no data available
Odor Threshold	no data available
Boiling Range	239-276°C, 464-528°F
Evaporation Point	no data available
Flammable Limits - Upper	7.0 %(V)
Flammable Limits - Lower	0.5%(V)
Vapor Pressure	0.02 mm Hg@20°C
Vapor Density (Air=1)	6.7
Viscosity	4.1 cSt @20°C

SECTION X - STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: Extreme heat , flame, sparks and other ignition sources.

Hazardous Decomposition/Byproducts: CO, CO2, and various hydrocarbons under combustion conditions.

Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None known.

Incompatibilities: None known

Safety Data Sheet

P-100 Base Oil

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: Aspiration hazard. Can enter the lungs during swallowing or vomiting and cause chemical pneumonia and edema.

Eye Contact: Causes eye irritation including stinging, watering and redness which may result in corneal injury.

Skin Contact: May cause mild skin irritation, redness, itching and inflammation.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Light Paraffinic Hydrotreated Distillate	Not Established	Not Established
Heavy Paraffinic Hydratreated Distillate	Oral - rat - > 5000 mg/kg - Dermal - rabbit - >5000mg/kg	Inhalation - rat - >5 mg/l / 4 h

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Not classified in terms of ecotoxicity.

Mobility: May partition into air, soil, and water.

Safety Data Sheet

P-100 Base Oil

Degradability: Not readily biodegradable.

BioAccumulation: May bioaccumulate in aquatic organisms.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Not Regulated

Contains:

Hazard Class and Label: NOT REGULATED

Identification Number:

Packaging Group:

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X				

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

Safety Data Sheet

P-100 Base Oil

CALIFORNIA PROPOSITION 65:

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 1

HMIS Flammability: 1

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet:

Email address:

Training necessary:

Disclaimer:

Safety Data Sheet

Benzyl Alcohol

SECTION I - IDENTIFICATION

	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtec :..... (800) 424-9300
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Product Number 00074
Product Name Benzyl Alcohol
Synonyms
CAS Number 100-51-6
Date Prepared 5/1/2007
Revision Number 2/27/2015
Recommended Use

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Acute Toxicity, Oral	Category 4
Serious Eye Damage/Eye Irritation	Category 2A
Acute Toxicity, Inhalation	Category 4
Hazardous to the aquatic environment, acute hazard	Category 2

WARNING!

GHS LABEL:



Hazard Statements

H302	Harmful if swallowed
H319	Causes serious eye irritation
H332	Harmful if inhaled
H401	Toxic to aquatic life

Safety Data Sheet

Benzyl Alcohol

Precautionary Statements

P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash... thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated are.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
p304+340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
P312	Call a POISON CENTER or a doctor/physician if you feel unwell.
P330	Rinse mouth.
P337+313	If eye irritation persists get medical advice/attention.
P501	Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Benzyl Alcohol	100-51-6	>= 95%	Not Established	Not Established

SECTION IV - FIRST AID MEASURES

Contact with eyes:	Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Skin contact:	Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.
Inhalation:	Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.
Ingestion:	Give large quantities of water . Never give anything by mouth to an unconscious person.

Safety Data Sheet

Benzyl Alcohol

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Carbon Dioxide, dry-chemical or universal type spray foam.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards: No unusual fire hazards known.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep all sources of ignition and hot metal surfaces away from spill or release. Evacuate all unprotected personnel from the area.

Environmental Precautions: Contain spill if it can be done with minimal risk. Prevent liquid from entering drains, sewers or waterways. Notify proper authorities.

Methods for Cleaning Up: Use foam on spills to minimize vapors. Using only non-sparking tools and explosion proof equipment, collect spill on absorbent material and put into approved container.

SECTION VII - HANDLING AND STORAGE

Handling and Storage:

- "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld, braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Benzyl Alcohol	100-51-6	Not Established	Not Established

Engineering Controls: Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.

Monitoring: Follow accepted work and hygiene practices for handling combustible product.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Impervious apron and work boots recommend where splashing may occur.

Safety Data Sheet

Benzyl Alcohol

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, colorless liquid
Odor	Slight aromatic
pH@25°C	Not Applicable
Melting/Freezing Point	5°F
Flashpoint	214°F
Specific Gravity	1.05
Solubility	Soluble
Auto-Ignition Temperature	No Data
Decomposition Temperature	No Data
VOC Content	No Data
Odor Threshold	
Boiling Range	401°F
Evaporation Point	No Data
Flammable Limits - Upper	No Data
Flammable Limits - Lower	No Data
Vapor Pressure	0.07 @ 68°F
Vapor Density (Air=1)	3.72 g/cm ³
Viscosity	No Data

SECTION X - STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: Oxidizing agents
Acids.

Hazardous Decomposition/Byproducts: None known

Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None known.

Incompatibilities: Strong acids. Strong bases. Strong oxidizers

Safety Data Sheet

Benzyl Alcohol

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: Low to moderate degree of toxicity by inhalation.

Eye Contact: This material can cause significant eye irritation.

Skin Contact: redness, itching or swelling

Ingestion: severe pain, vomiting, diarrhea and collapse

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Benzyl Alcohol	Oral - rat - 1,230 mg/kg; Oral - rat - male - 1,620 mg/kg	

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity Not listed as a carcinogen.

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Information not available.

Mobility: Information not available.

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Benzyl Alcohol

Degradability: No data available.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow Federal, state, and local regulations.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Not Regulated

Contains: Benzyl Alcohol

Hazard Class and Label: N/A

Identification Number: N/A

Packaging Group: N/A

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X	X			

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

Safety Data Sheet

Benzyl Alcohol

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 2

HMIS Flammability: 1

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

Disclaimer: The information contained herein is based upon data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ksolv, Inc. assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by this material. Such vendees, users, or third parties assume all risks associated with use of this product.



Beradol 91-6

Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Date of issue: 04/14/2016

Revision date: 05/03/2016

Supersedes: 04/14/016

Version: 1.1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance
Trade name : Beradol 91-6
CAS No : 68439-46-3
Product code : Alcohols, C9-11, ethoxylated

1.2. Relevant identified uses of the substance or mixture and uses advised against

Detergent

1.3. Details of the supplier of the safety data sheet

Berryman Chemical, Inc.
626 W. Alabama
Houston, TX 77006
Tel: 713-520-0805

1.4. Emergency telephone number

Emergency number : Chemtrec (800) 424-9300
24 hours

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Acute Tox. 4 (Oral) H302
Eye Dam. 1 H318

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



GHS05

GHS07

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H302 - Harmful if swallowed
H318 - Causes serious eye damage

Precautionary statements (GHS-US) :

P264 - Wash hands, forearms and face thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P280 - Wear eye protection
P301+P312 - If swallowed: Call a POISON CENTER if you feel unwell
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER
P330 - Rinse mouth
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

Not applicable

Beradol 91-6

Safety Data Sheet

According to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

SECTION 3: Composition/information on ingredients

3.1. Substance

Name	Product identifier	%
Alcohols, C9-11, ethoxylated	(CAS No) 68439-46-3	100

3.2. Mixture

Not applicable

SECTION 4: First aid Measures

4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. Call a poison center or a doctor if you feel unwell.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. If breathing is irregular or stopped, administer artificial respiration. Call a POISON CENTER or doctor/physician if you feel unwell.
- First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor/physician.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
- First-aid measures after ingestion : Do NOT induce vomiting. Rinse mouth. Immediately call a POISON CENTER or doctor/physician.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries after eye contact : Symptoms include stinging, watering, redness, and swelling.
- Symptoms/injuries after ingestion : Swallowing of this material will result in serious health hazard.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire. Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Not flammable
- Explosion hazard : Not explosive. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.
- Reactivity : Thermal decomposition generates : Carbon oxides. Aldehydes. Flammable hydrocarbon fragments.

5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protective equipment for firefighters : Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel. Avoid contact with skin and eyes.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".
- Emergency procedures : Ventilate area. Stop leak, if possible without risk.

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Safety Data Sheet

According to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.
- Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection. For further information refer to Section 8 : Exposure-controls/personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not breathe mist/vapours/spray. Avoid breathing mist/vapours/spray. Avoid contact with skin and eyes. Wear personal protective equipment.
- Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Comply with applicable regulations.
- Storage temperature : 50 – 100 °F
- Storage conditions : Keep only in the original container in a cool, well ventilated place: Store in a well-ventilated place. Keep cool.
- Incompatible materials : Materials reactive with hydroxyl compounds. Copper alloys. Strong acids.
- Incompatible condition : Presence of air or oxygen at temperature > 110 °F. Direct sunlight.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

- Appropriate engineering controls : Ensure good ventilation of the work station. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
- Personal protective equipment : Gloves, Protective goggles.



- Hand protection : Wear protective gloves (Neoprene, Nitrile rubber). Chemical resistant, impervious gloves should be worn at all times when handling chemical products.
- Eye protection : Chemical goggles or face shield. Safety glasses.
- Respiratory protection : Wear appropriate mask.
- Environmental exposure controls : Avoid release to the environment.
- Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Liquid
- Appearance : Clear to slightly turbid.
- Color : Colourless
- Odor : Mild
- Odour threshold : No data available
- pH : Not applicable

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According to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Relative evaporation rate (butyl acetate=1)	: No data available
Pour point	: 6 °C /43 °F
Freezing point	: No data available
Boiling point	: 232 °C
Flash point	: 143 °C
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 0.984 (water=1)
Density	: No data available
Solubility	: Completely soluble in water.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: 23 cSt (37 °C / 99 °F)
Viscosity, dynamic	: No data available
Explosive properties	: Not applicable
Oxidising properties	: Not applicable
Explosive limits	: Not applicable

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

React with hydroxyl compounds and strong acids.

10.2. Chemical stability

Stable at ambient temperature and under normal conditions of use.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Materials reactive with hydroxyl compounds. Strong acids.

10.6. Hazardous decomposition products

Thermal decomposition generates : Carbon oxides. Aldehydes. Flammable hydrocarbon fragments.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Harmful if swallowed

Alcohols, C9-11, ethoxylated (68439-46-3)	
LD50 oral rat	1,400 mg/kg

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Causes serious eye damage.

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According to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Symptoms/injuries after eye contact	: Symptoms include stinging, watering, redness, and swelling.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Alcohols, C9-11, ethoxylated (68439-46-3)	
LC50 (96h) fish	8.5 mg/ l
EC50 (48h) Daphnia	5.3 mg/ l
EC50 (96h) Algae	1-10 mg/ l

12.2. Persistence and degradability

Readily biodegradable as OECD (degrades greater than 60-70% within 10 day window over 28 days)

12.3. Bioaccumulative potential

No additional information available.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on ozone layer : No additional information available

Effect on the global warming : No additional information available

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose material and the container in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

DOT

Not dangerous goods

IATA

Not dangerous goods

IMDG

Beradol 91-6

Safety Data Sheet

According to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

SECTION 15: Regulatory information

15.1. US Federal regulations

Alcohols, C9-11, ethoxylated (68439-46-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Alcohols, C9-11, ethoxylated (68439-46-3)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Alcohols, C9-11, ethoxylated (68439-46-3)

Listed on the EU NLP (No Longer Polymers) inventory

Classification according to Regulation (EC) No. 1272/2008 [CLP]

No information available

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

No information available

15.2.2. National regulations

Alcohols, C9-11, ethoxylated (68439-46-3)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)
Listed on Turkish inventory of chemical

15.3. US State regulations

EPA SARA Title III Section 313 (40 CFR 372) Component(s) above 'de minimus' level
None.

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)

This product does not contain any chemicals known to State of California to cause cancer, birth defects or any other harm.

This product meets the criteria of the US EPA Design for Environment (DfE) Surfactant screen and is listed on CleanGredients.

SECTION 16: Other information

Revision date : 04/14/2016

Other information : None.

Full text of H-phrases:

-----	Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
-----	Eye Dam. 1	Serious eye damage/eye irritation, Category 1
-----	H302	Harmful if swallowed
-----	H318	Causes serious eye damage

The information presented herein is believed to be correct but is not purported to be all inclusive and shall be used only as a guide. Berryman Chemical, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

1. Identification

Product identifier Beradol 91-8
Other means of identification
Recommended use Surfactant
Recommended restrictions For industrial use only.

Manufacturer/Importer/Supplier/Distributor information**Manufacturer**

Company name Berryman Chemical, Inc.
Address 626 West Alabama Street
Houston, TX 77006-5004 USA

Telephone General 1-847-446-7500

E-mail customerservice@berrymanchemical.com

Emergency phone number
Chemtrec 1-800-424-9300
Chemtrec Int'l +1 703-527-3887

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 1
Environmental hazards Hazardous to the aquatic environment, acute hazard Category 2
Hazardous to the aquatic environment, long-term hazard Category 3
OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Causes skin irritation. Causes serious eye damage. Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention Wear eye/face protection. Wash thoroughly after handling. Avoid release to the environment. Wear protective gloves.

Response If on skin: Wash with plenty of water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Specific treatment (see this label). If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Storage Store away from incompatible materials.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information Not applicable.

3. Composition/information on ingredients**Mixtures**

Chemical name	Common name and synonyms	CAS number	%
Alcohols, C9-11, ethoxylated		68439-46-3	90 - 100
Other components below reportable levels			< 0.1

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Ingestion	Rinse mouth. Get medical attention if symptoms occur. Do not induce vomiting without advice from poison control center.
Most important symptoms/effects, acute and delayed	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent product from entering drains. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use.
Environmental precautions	Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Do not get this material in contact with eyes. Avoid contact with skin. Avoid prolonged exposure. Avoid contact with clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Avoid release to the environment. Do not empty into drains.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container.

8. Exposure controls/personal protection

Biological limit values	No biological exposure limits noted for the ingredient(s).
--------------------------------	--

Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear appropriate chemical resistant clothing. Wear protective gloves.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state	Liquid.
Form	Liquid.
Color	Not available.
Odor	Not available.
Odor threshold	Not available.
pH	5.5 - 6.5 (1% aqueous)
Melting point/freezing point	59 °F (15 °C)
Initial boiling point and boiling range	Not available.
Flash point	318.2 °F (159.0 °C)
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Complete
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Pour point	59 °F (15 °C)
Specific gravity	1.01 @ 25C

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.

Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye damage.
Ingestion	Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics Not available.

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
Beradol 91-8		
<u>Acute</u>		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	> 2000 mg/kg

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization	Not available.
Skin sensitization	This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not applicable.

Specific target organ toxicity - repeated exposure Not applicable.

Aspiration hazard Not applicable.

12. Ecological information

Ecotoxicity Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Product	Species		Test Results
Beradol 91-8			
Aquatic			
<i>Acute</i>			
Algae	EC50	Algae	10 - 100 mg/l, 72 hours
Crustacea	EC50	Daphnia	5 - 10 mg/l, 48 hours
Fish	LC50	Fish	5 - 10 mg/l, 96 hours

Persistence and degradability	Readily biodegradable.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

**Clean Water Act (CWA)
Section 112(r) (40 CFR
68.130)** Hazardous substance

**Safe Drinking Water Act
(SDWA)** Not regulated.

US state regulations

California Proposition 65



WARNING: This product can expose you to chemicals including Acetaldehyde, which are known to the State of California to cause cancer, and Ethylene Glycol, which are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Acetaldehyde (CAS 75-07-0) Listed: April 1, 1988
Ethylene oxide (CAS 75-21-8) Listed: July 1, 1987

California Proposition 65 - CRT: Listed date/Developmental toxin

Ethylene Glycol (CAS 107-21-1) Listed: June 19, 2015
Ethylene oxide (CAS 75-21-8) Listed: August 7, 2009

California Proposition 65 - CRT: Listed date/Female reproductive toxin

Ethylene oxide (CAS 75-21-8) Listed: February 27, 1987

California Proposition 65 - CRT: Listed date/Male reproductive toxin

Ethylene oxide (CAS 75-21-8) Listed: August 7, 2009

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory (NZIoC)	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 5-29-2019

Version # 01

Disclaimer

Terms and Conditions. This SDS is designed only as guidance for the products to which it applies. To the greatest extent permitted by applicable law, nothing contained herein creates any legal obligation including contractual obligations, expressed or implied warranties, including any warranties of merchantability or fitness for particular purpose; or confers any intellectual property rights, including rights to use trademarks or a license to use patents, issued or pending. The information contained herein is based on the manufacturer's own study and the work of others, and is subject to change at any time without further notice. There is no warranty, expressed or implied, as to the accuracy, completeness or adequacy of the information contained herein, and neither the provider nor the manufacturer (nor the agents, directors, officers, contractors or employees of either) are liable to any party for any damages of any nature, including direct, special or consequential damages arising out of or in connection with the accuracy, completeness, adequacy or furnishing of any information in this SDS, or in any other way related (directly or indirectly) to this SDS. The receipt and use of this information constitutes consent to these terms and conditions.

Revision information

Identification: Recommended restrictions
Composition / Information on Ingredients: Ingredients
Physical & Chemical Properties: Multiple Properties
Regulatory information: California Proposition 65
GHS: Classification

Safety Data Sheet
Caustic Soda 50% Solution

SECTION I - IDENTIFICATION

	<p>K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtrec :..... (800) 424-9300</p>
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Product Number	00087
Product Name	Caustic Soda 50% Solution
Synonyms	Sodium Hydroxide 50%
CAS Number	Multiple
Date Prepared	9/1/2015
Revision Number	1/24/2019
Recommended Use	Laboratory Chemicals.

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Corrosive to Metals	Category 1
Skin Corrosion/Irritation	Category 1A, B, C
Serious Eye Damage/Eye Irritation	Category 1
Hazardous to the aquatic environment, acute hazard	Category 3

DANGER!

GHS LABEL:



Hazard Statements

H290	May be corrosive to metals
H314	Causes severe burns and eye damage
H318	Causes serious eye damage
H402	Harmful to aquatic life

Safety Data Sheet

Caustic Soda 50% Solution

Precautionary Statements

P234	Keep only in original packaging
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash... thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+330+331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
P321	Specific treatment (see ... on this label).
P363	Wash contaminated clothing before reuse.
p390	Absorb spillage to prevent material damage.
P405	Store locked up.
P406	Store in a corrosive resistant/... container with a resistant inner liner.
P501	Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Sodium Hydroxide	1310-73-2	45% - 55%	2 mg/m ³ , Ceiling	2 mg/m ³ , Ceiling
Water	7732-18-5	45% - 55%	Not Established	Not Established

SECTION IV - FIRST AID MEASURES

Contact with eyes: If in eyes, immediately rinse eyes cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists, get medical advice/attention.

Skin contact: Wash immediately with lots of water (15 minutes) / shower. Do not apply (chemical) neutralizing agents. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandages. Consult a doctor/medical service. If burned surface is >10% take victim to a hospital. Immediately remove all contaminated clothing. Rinse skin with water/shower. Immediately call poison center or doctor/physician.

Safety Data Sheet
Caustic Soda 50% Solution

Inhalation: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. If breathing stops, give artificial respiration. Get medical advice/attention.

Ingestion: If vomiting occurs, keep head below hips to prevent aspiration into lungs.
Consult a physician
Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Get medical advice/attention.
Take victim immediately to hospital.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Use appropriate extinguishing media for the surrounding fire. The product is not flammable.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Any/all persons dealing with the spill should wear appropriate personal protective equipment. Keep others away from spill/leak. Restrict access to area until the spill has been cleaned up.

Environmental Precautions: Contain spill if it can be done with minimal risk.

Methods for Cleaning Up: Using only non-sparking tools and explosion proof equipment, collect spill on absorbent material and put into approved container.

SECTION VII - HANDLING AND STORAGE

Handling and Storage:

- Avoid prolonged breathing of mist or vapor. Wash thoroughly after handling.
- Keep only in original container. Store in a well-ventilated place. Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Sodium Hydroxide	1310-73-2	2 mg/m ³ , Ceiling	2 mg/m ³ , Ceiling
Water	7732-18-5	Not Established	Not Established

Safety Data Sheet
Caustic Soda 50% Solution

Engineering Controls: Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.

Monitoring: Do not eat, drink or smoke in areas where this chemical is used or stored.
 Have eye wash stations and safety showers readily available.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.
 Wear safety glasses. Where the opportunity for a splash or spray caused by high pressure or agitation of the material is possible, use a face shield and chemical goggles.

Skin Protection: Wear safety glasses with un-perforated side shields.
 Impervious apron and work boots recommend where splashing may occur.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear Colorless to Light Yellow Liquid
Odor	Odorless
pH@25°C	14
Melting/Freezing Point	12°C
Flashpoint	N/A
Specific Gravity	1.5
Solubility	Complete
Auto-Ignition Temperature	N/A
Decomposition Temperature	N/A
VOC Content	N/A
Odor Threshold	NDA
Boiling Range	143°C
Evaporation Point	N/A
Flammable Limits - Upper	N/A
Flammable Limits - Lower	N/A
Vapor Pressure	1.2 hPa @ 20°C
Vapor Density (Air=1)	N/A
Viscosity	79 mPa @ 20°C

SECTION X - STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to Avoid: Prolonged exposure to humid atmosphere
 Direct sunlight. Extremely high or low temperatures.

Hazardous Decomposition/Byproducts: Hydrogen gas, CO, extreme heat
 Oxides of Sodium, Sulfur oxides.

Safety Data Sheet
Caustic Soda 50% Solution

Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Polymerization: No information available.

Polymerization Conditions to Avoid: No information available.

Incompatibilities: Metals
Strong acids.

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: Exposure to High Concentrations: Dry/Sore Throat. Coughing. Irritation of the Respiratory Tract. Irritation of the Nasal Mucous Membranes. Following Symptoms may Appear Later: Possible Laryngeal Spasm/Oedema. Risk of Lung Edema. Respiratory Difficulties.

Eye Contact: Causes eye irritation including stinging, watering and redness which may result in corneal injury.

Skin Contact: Caustic Burns/Corrosion of the Skin. Slow-Healing Wounds.

Ingestion: Vomiting. Diarrhea. Burns to the gastric/intestinal mucosa. Possible esophageal perforation. Bleeding of the gastrointestinal tract. Shock. After Absorption of Large Quantities: Disturbances of Consciousness.

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Sodium Hydroxide	Not Established	Not Established
Water	Not Established	Not Established

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Safety Data Sheet
Caustic Soda 50% Solution

Embryotoxicity Not Applicable
Sensitization to Product Not Applicable
Synergistic Products Not Applicable
Carcinogenicity Not Listed as a Carcinogen

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Information not available.

Mobility: Information not available.

Degradability: No data available.

BioAccumulation: BioAccumulation is unlikely.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow Federal, State, and Local Regulations.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Sodium Hydroxide Solution

Contains:

Hazard Class and Label: 8

Identification Number: UN 1824

Packaging Group: II

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

Safety Data Sheet
Caustic Soda 50% Solution

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X	X			

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

Component Name	CAS #	% by wt.	RQ (lbs.)
Sodium Hydroxide	1310-73-2	45% - 55%	1,000

CALIFORNIA PROPOSITION 65:

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 3
HMIS Flammability: 0
HMIS Reactivity: 1

Additional:

Specification Information

Department issuing data sheet: Compliance Department
Email address: plant@ksolv.com
Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

Disclaimer: The information contained herein is based upon data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ksolv, Inc. assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by this material. Such vendees, users, or third parties assume all risks associated with use of this product.

Safety Data Sheet

Citric Acid 50%

SECTION I - IDENTIFICATION

 Ksolv	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtec :..... (800) 424-9300
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Product Number 5001
Product Name Citric Acid 50%
Synonyms
CAS Number Multiple
Date Prepared 5/22/2014
Revision Number 10/11/2018
Recommended Use Industrial Use Only

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Corrosive to Metals

Category 1

Serious Eye Damage/Eye Irritation

Category 2A

WARNING!

GHS LABEL:



Hazard Statements

H290 May be corrosive to metals

H319 Causes serious eye irritation

Safety Data Sheet

Citric Acid 50%

Precautionary Statements

P234	Keep only in original packaging
P264	Wash... thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
P337+313	If eye irritation persists get medical advice/attention.
p390	Absorb spillage to prevent material damage.
P406	Store in a corrosive resistant/... container with a resistant inner liner.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Water	7732-18-5	50%	Not Established	Not Established
2-Hydroxy-1,2,3-Propanetricarboxylic Acid	77-92-9	50%	Not Established	Not Established

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Skin contact: Wash off with soap and plenty of water.
Consult a physician.

Inhalation: Move to fresh air. If symptoms persist, call a physician.

Ingestion: If swallowed. Wash out mouth thoroughly with water and give plenty of water to drink.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards:

Safety Data Sheet

Citric Acid 50%

SECTION VI - ACCIDENTAL RELEASE MEASURES

- Personal Precautions:** Use Personal protective equipment.
Ensure adequate ventilation.
For personal protection see section 8.
Avoid contact with skin and eyes.
- Environmental Precautions:** Prevent liquid from entering drains, sewers or waterways.
Avoid release into the environment. Do not flush into surface water or sanitary sewer system.
- Methods for Cleaning Up:** Dam up. Neutralize. If liquid has been spilt in large quantities, clean up promptly by scoop or vacuum. After cleaning, flush away traces with water. For disposal information, see section 13.

SECTION VII - HANDLING AND STORAGE

- Handling and Storage:**
- Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Remove and wash contaminated clothing before re-use.
 - Keep in properly labelled containers. Keep container tightly closed in a dry and well-ventilated place. Keep away from metals, Keep away from oxidizing agents. Keep away from stron bases. Keep away from amines.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Water	7732-18-5	Not Established	Not Established
2-Hydroxy-1,2,3-Propanetricarboxylic Acid	77-92-9	Not Established	Not Established

- Engineering Controls:** Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.
- Monitoring:** Follow accepted work and hygiene practices for handling combustible product.
- Personal Protective Equipment (PPE)**
- Eye Protection:** Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.
- Skin Protection:** Impervious solvent resistant gloves. Impervious apron and work boots recommend where splashing may occur.
- Respiratory Protection:** Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

Safety Data Sheet

Citric Acid 50%

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear Light Yellow to Brown
Odor	Odorless
pH@25°C	2.2 (0.1 N Sol'n)
Melting/Freezing Point	-15 to -10°C° / 5 to 14°F
Flashpoint	No information available
Specific Gravity	1.24
Solubility	Completely miscible
Auto-Ignition Temperature	No information available
Decomposition Temperature	No information available
VOC Content	No information available
Odor Threshold	No information available
Boiling Range	150°C / 221°F
Evaporation Point	No information available
Flammable Limits - Upper	No information available
Flammable Limits - Lower	No information available
Vapor Pressure	No information available
Vapor Density (Air=1)	No information available
Viscosity	10-12 cps

SECTION X - STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to Avoid: Incompatible products.

Hazardous Decomposition/Byproducts: No data available.

Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None known.

Incompatibilities: Amines. Heavy metals. Strong oxidizing agents. Strong bases.

Safety Data Sheet

Citric Acid 50%

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: May cause irritation of respiratory tract. Avoid breathing vapors or mists. Based on the low pH, citric acid would be expected to cause irritation to the respiratory tract, resulting in a higher cough response as the inhalation exposure concentration was increased.

Eye Contact: Irritating to eyes

Skin Contact: May cause mild skin irritation, redness, itching and inflammation.

Ingestion: Oral exposure is not anticipated under normal working conditions. Health injuries are not known or expected under normal use.

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: No data available.

Toxicity:

Component Name	LD50	LC50
Water	Not Established	Not Established
2-Hydroxy-1,2,3-Propanetricarboxylic Acid	Oral - Rat - 5,400 mg/kg; Dermal - Rat - > 2,000 mg/kg	Not Established

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Not classified for aquatic toxicity. Contains no substances known to be hazardous to the environment. Contains no substances known to be not degradable in water treatment plants.

Safety Data Sheet

Citric Acid 50%

Mobility: Soluble in water.

Degradability: Readily biodegradeable.
Inherently biodegradeable.
97% and 100% biodegradability in 28d and 19d, respectively (protocols OECD 301E and OECD 301A, respectfully).

BioAccumulation: BioAccumulation is unlikely.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Hazardous as supplied. The classification and disposal method of waste material resulting from this product should be determined by the user at the time of disposal. Dispose of in compliance with the laws and regulations pertaining to this product in your jurisdiction. Taking into account local regulations the product may be disposed of as waste water after neutralisation. Solutions with low pH-value should be neutralized before discharge.

Triple rinse containers. Empty containers should be decontaminated and taken for local recycling, recovery or waste disposal.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Corrosive Liquid, N.O.S., (Citric Acid)

Contains:

Hazard Class and Label: 8

Identification Number: UN1760

Packaging Group: III

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X				

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

Safety Data Sheet

Citric Acid 50%

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 2

HMIS Flammability: 1

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

Disclaimer: The information contained herein is based upon data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ksolv, Inc. assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by this material. Such vendees, users, or third parties assume all risks associated with use of this product.



Safety Data Sheet dated 11/11/2015, version 1

Printing date:28/12/2016

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name: CST-1070
MSDS code: F014030
Chemical description: Polymer.

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended use:

Industrial uses.

1.3. Details of the supplier of the safety data sheet

Supplier:
Lamberti USA Inc. - Highway 59 at County Road 212 - P.O. Box 1000, Hungerford, TX 77448-
U.S.A.
Tel. n° 281 342-5675 Fax n° 979 532-3749

Competent person responsible for the safety data sheet:

hse@lamberti.com

1.4. Emergency telephone number

CHEMTREC - Phone n. 800 424-9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

EC regulation criteria 1272/2008 (CLP)

The product is not classified as dangerous according to EC Regulation 1272/2008 (CLP):

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Symbols:

None

Hazard statements:

None

Precautionary statements:

None

Special Provisions:

None

Special provisions according to Annex XVII of REACH and subsequent amendments:

None

2.3. Other hazards

vPvB Substances: None - PBT Substances: None

Other Hazards:

No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

Not hazardous.

3.2. Mixtures

N.A.

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Wash with plenty of water and soap.

In case of eyes contact:



- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- In case of Ingestion:
Do not under any circumstances induce vomiting. Seek immediately medical advice.
- In case of Inhalation:
Remove casualty to fresh air and keep warm and at rest.
- 4.2. Most important symptoms and effects, both acute and delayed
Not known.
- 4.3. Indication of any immediate medical attention and special treatment needed
Treatment:
Not known.

SECTION 5: Firefighting measures

- 5.1. Extinguishing media
Suitable extinguishing media:
Water.
Carbon dioxide (CO₂).
Extinguishing media which must not be used for safety reasons:
Not known.
- 5.2. Special hazards arising from the substance or mixture
Do not inhale explosion and combustion gases.
- 5.3. Advice for firefighters
Use suitable breathing apparatus .
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

- 6.1. Personal precautions, protective equipment and emergency procedures
Wear personal protection equipment.
Remove persons to safety.
See protective measures under point 7 and 8.
- 6.2. Environmental precautions
Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.
Retain contaminated washing water and dispose it.
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.
- 6.3. Methods and material for containment and cleaning up
Suitable material for taking up: absorbing material, organic, sand
Wash with plenty of water.
- 6.4. Reference to other sections
See also section 8 and 13

SECTION 7: Handling and storage

- 7.1. Precautions for safe handling
Avoid contact with skin and eyes, inhalation of vapours and mists.
Do not eat or drink while working.
See also section 8 for recommended protective equipment.
- 7.2. Conditions for safe storage, including any incompatibilities
Keep away from food, drink and feed.
Instructions as regards storage premises:
Adequate ventilation in working area.
Packaging suggested:
Plastic drums.
- 7.3. Specific end use(s)
None in particular



SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No occupational exposure limit available

DNEL Exposure Limit Values

N.D.

PNEC Exposure Limit Values

N.D.

8.2. Exposure controls

Eye protection:

Use close fitting safety goggles. (ref. EN 166, EN 140, EN175).

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton. (ref. EN 340).

Protection for hands:

Chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimized. In case of prolonged contact, the use of protective gloves is recommended, providing comprehensive protection to chemicals (refer to EN 374).

Respiratory protection:

Use respiratory protection where ventilation is insufficient or exposure is prolonged, e.g. (ref. EN 136, EN 140, EN 141, EN 143, EN 149, EN 405).

Thermal Hazards:

None

Environmental exposure controls:

None

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance and colour: Viscous liquid.

Odour: Slight.

Odour threshold: N.D.

pH: Not applicable.

Melting point / freezing point: N.D.

Initial boiling point and boiling range: > 100 °C.

Solid/gas flammability: N.D.

Upper/lower flammability or explosive limits: N.D.

Vapour density: N.D.

Flash point: > 100 °C.

Evaporation rate: N.D.

Vapour pressure: N.D.

Relative density: 0.936 - 1.136

Solubility in water: Insoluble.

Solubility in oil: N.D.

Partition coefficient (n-octanol/water): N.D.

Auto-ignition temperature: N.D.

Decomposition temperature: N.D.

Viscosity: N.D.

Explosive properties: N.D.

Oxidizing properties: N.D.

9.2. Other information

Miscibility: N.D.

Fat Solubility: N.D.

Conductivity: N.D.

Substance Groups relevant properties N.D.

SECTION 10: Stability and reactivity

10.1. Reactivity



- Stable under normal conditions
- 10.2. Chemical stability
Stable under normal conditions
- 10.3. Possibility of hazardous reactions
Stable under normal conditions
- 10.4. Conditions to avoid
Stable under normal conditions.
- 10.5. Incompatible materials
Not known.
- 10.6. Hazardous decomposition products
Not known.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological information of the substance:

a) acute toxicity:

Toxicity Oral Rat LD50 > 2000 mg/kg. - By analogy to product with similar composition.

b) skin corrosion/irritation:

Irritation Skin : repeated and prolonged contacts may cause slight irritation.

c) serious eye damage/irritation:

Irritation Eye : repeated and prolonged contacts may cause slight irritation.

Other : N.D.

If not differently specified, the information required in Regulation 453/2010/EC listed below must be considered as N.D.:

- a) acute toxicity;
- b) skin corrosion/irritation;
- c) serious eye damage/irritation;
- d) respiratory or skin sensitisation;
- e) germ cell mutagenicity;
- f) carcinogenicity;
- g) reproductive toxicity;
- h) STOT-single exposure;
- i) STOT-repeated exposure;
- j) aspiration hazard.

SECTION 12: Ecological information

12.1. Toxicity

Ecological information of the substance:

Aquatic toxicity: Data not available.

12.2. Persistence and degradability

Ecological information of the substance:

Biodegradability: Data not available.

12.3. Bioaccumulative potential

Ecological information of the substance:

Bioaccumulation: Data not available.

12.4. Mobility in soil

Ecological information of the substance:

Mobility in soil: Data not available.

12.5. Results of PBT and vPvB assessment

vPvB Substances: None - PBT Substances: None

12.6. Other adverse effects

None

Use according to criteria of good industrial practice, avoiding product dispersion in the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods



If possible recover the product in accordance with local regulation.

SECTION 14: Transport information

- 14.1. UN number
N.A.
- 14.2. UN proper shipping name
Proper Shipping Name: N.A.
- 14.3. Transport hazard class(es)
 - Road (ADR): N.A.
 - Air (ICAO/IATA): N.A.
 - Sea (IMO/IMDG): N.A.
- 14.4. Packing group
N.A.
- 14.5. Environmental hazards
N.A.
- 14.6. Special precautions for user
N.A.
- 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
N.A.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
Dir. 2000/39/EC (Occupational exposure limit values); Dir. 2006/8/CE. Regulation (CE) n. 1907/2006 (REACH).

For non-EU Countries, the Material Safety Data Sheet it is prepared following the main principles of Globally Harmonized System of Classification and Labelling of Chemicals (GHS) which are adopted worldwide.

Refer to other local regulations that may be relevant (i.e. : sanitary control, waste treatment etc.)

- 15.2. Chemical safety assessment
No

SECTION 16: Other information

N.A. = Not Applicable
N.D. = No Data available

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

- TOXNET - Databases on toxicology, hazardous chemicals, environmental health, and toxic releases;
- NIOSH - Registry of toxic effects of chemical substances (1983) - Occupational Health Guidelines for Chemical Hazards (1995) - Pocket Guide to Chemical Hazards (on line)
- OECD - eChemPortal: The Global Portal to Information on Chemical Substances;
- CESIO - Human Health and Environmental classification of AE, AES, AS and various surfactant families.
- M.Sittig-Handbook of toxic and Hazardous Chemicals and Carcinogens- III Ed.
- E.R. Plunkett - Handbook of Industrial Toxicology - III Ed. 1991.
- Samson Chem. Pub.-Chemical Safety Sheet working safely with hazardous chemical.
- SAX'S Dangerous Properties of Industrial Materials. VIII (1993)
- ACGIH "2013 TLVs and BEIs".
- ILV "1998/24/EC Directive and subsequent addition".

The product must be stored, handled and used according to criteria of good industrial practice and to regulations in force. This leaflet is offered for your consideration and guidance only. This leaflet complements the Technical Data Sheet but does not replace it. The information herein contained is given to the best of our knowledge at the time of issue.



Due to the several ways in which the product may be used and the possible interaction with variables not depending on or unknown to the supplier, we also cannot accept any liability whatsoever for any loss or damage however arising from the handling and use of our products.

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road.
CAS:	Chemical Abstracts Service (division of the American Chemical Society).
CLP:	Classification, Labeling, Packaging.
DNEL:	Derived No Effect Level.
EINECS:	European Inventory of Existing Commercial Chemical Substances.
GefStoffVO:	Ordinance on Hazardous Substances, Germany.
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals.
IATA:	International Air Transport Association.
IATA-DGR:	Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Code for Dangerous Goods.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
LTE:	Long-term exposure.
PNEC:	Predicted No Effect Concentration.
REACH:	Registration Evaluation and Authorization of Chemicals.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STE:	Short-term exposure.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
SVHC:	Candidate List of Substances of Very High Concerns.
TLV:	Threshold Limiting Value.
TWATLV:	Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
WGK:	German Water Hazard Class.

Safety Data Sheet
DDBSA

SECTION I - IDENTIFICATION



K-Solv Chemicals, LLC
9660 Katy Freeway
Houston, TX 77055
(866) 576-5846
Chemtrec :..... (800) 424-9300

Product Number 11087
Product Name DDBSA
Synonyms 4-Dodecylbenzenesulfonic Acid
CAS Number 121-65-3
Date Prepared 10/19/2015
Revision Number 10/19/2015
Recommended Use Industrial Use Only

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Skin Corrosion/Irritation

Category 1A, B, C

Serious Eye Damage/Eye Irritation

Category 1

DANGER!

GHS LABEL:



Hazard Statements

H314 Causes severe burns and eye damage

H318 Causes serious eye damage

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Precautionary Statements

- P260 Do not breathe dust/fume/gas/mist/vapors/spray.
- P264 Wash... thoroughly after handling.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P301+330+331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303+361+353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water or shower.
- P304+340 IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
- P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
- P310 Immediately call a POISON CENTER or doctor/physician.
- P321 Specific treatment (see ... on this label).
- P363 Wash contaminated clothing before reuse.
- P405 Store locked up.
- P501 Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
4-Dodecylbenzenesulfonic Acid	121-65-3	<=100	Not Established	Not Established

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

Inhalation: Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.

Ingestion: Give large quantities of water . Never give anything by mouth to an unconscious person.

If vomiting occurs, keep head below hips to prevent aspiration into lungs.

If vomiting occurs, keep head below hips to prevent aspiration into lungs.

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SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Carbon Dioxide, dry-chemical or universal type spray foam.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards: Product is flammable and may be ignited by heat, sparks, flames or other sources of ignition (e.g., static electricity, pilot lights or mechanical/electrical equipment). Vapors are heavier than air and may accumulate in low areas. Vapors may travel considerable distance to a source of ignition where they can ignite, flashback or explode. May create vapor/air explosion hazard indoors, outdoors or in sewers. If container is not properly cooled, it can explode in the heat of a fire.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Any/all persons dealing with the spill should wear appropriate personal protective equipment. Keep others away from spill/leak. Restrict access to area until the spill has been cleaned up.

Environmental Precautions: Contain spill if it can be done with minimal risk.

Methods for Cleaning Up: Using only non-sparking tools and explosion proof equipment, collect spill on absorbent material and put into approved container.

SECTION VII - HANDLING AND STORAGE

Handling and Storage:

- Avoid prolonged breathing of mist or vapor. Wash thoroughly after handling.
- NFPA Class III B storage.
- Wash thoroughly after handling.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
4-Dodecylbenzenesulfonic Acid	121-65-3	Not Established	Not Established

Engineering Controls: Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.

Monitoring: Follow accepted work practices for handling a flammable material. Do not eat, drink or smoke in areas where this chemical is used or stored. Have eye wash stations and safety showers readily available.

Personal Protective Equipment (PPE)

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DDBSA

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Wear safety glasses with un-perforated side shields.
Impervious apron and work boots recommend where splashing may occur.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Dark Brown Liquid
Odor	-
pH@25°C	-
Melting/Freezing Point	-
Flashpoint	N/A
Specific Gravity	1.06
Solubility	no data available
Auto-Ignition Temperature	-
Decomposition Temperature	-
VOC Content	-
Odor Threshold	-
Boiling Range	no data available
Evaporation Point	N/A
Flammable Limits - Upper	N/A
Flammable Limits - Lower	N/A
Vapor Pressure	-
Vapor Density (Air=1)	N/A
Viscosity	-

SECTION X - STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to Avoid: Prolonged exposure to humid atmosphere

Hazardous Decomposition/Byproducts: Hydrogen gas, CO, extreme heat

Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None known.

Incompatibilities: Amphoteric metals, halogenated hydrocarbons, organic and inorganic acids

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SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: May be irritating to mucous membranes and respiratory tract
May cause respiratory tract irritation. Inhalation of vapors may cause drowsiness and dizziness.
Chronic overexposure may result in irritation or tissue damage and an increased susceptibility to respiratory illness, and permanent lung damage.

Eye Contact: High vapor concentrations are irritating to the eyes.
Will cause severe burns on contact and will damage the eyes.

Skin Contact: Solid or liquid contact can cause severe burns and deep ulcerations.

Ingestion: Moderate to high degree of toxicity by ingestion. May be harmful or fatal if swallowed.
Death can result from ingestion.
Can cause severe burns and complete tissue damage.

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
4-Dodecylbenzenesulfonic Acid		

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity Not Listed as a Carcinogen

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Information not available.

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Mobility: Information not available.

Degradability: No data available.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow Federal, state, or local regulations. If uncontaminated product becomes waste, it is regulated as RCRA hazardous waste #D002. Reportable quantity is 2000 pounds or 155 gallons.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Aryl Sulfonic Acids, Liquid

Contains:

Hazard Class and Label: 8

Identification Number: UN 2586

Packaging Group: III

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X	X			

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

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No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION
--

HMIS Health: 3

HMIS Flammability: 0

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet:

Email address:

Training necessary:

Disclaimer:

Safety Data Sheet

Denatured Alcohol

SECTION I - IDENTIFICATION

 Ksolv	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtrec :..... (800) 424-9300
--	---

Product Number 00077
Product Name Denatured Alcohol
Synonyms
CAS Number Multiple
Date Prepared 10/10/2014
Revision Number 1/14/2019
Recommended Use Industrial Use Only

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Flammable Liquids	Category 2
Acute Toxicity, Oral	Category 3
Acute Toxicity, Dermal	Category 3
Acute Toxicity, Inhalation	Category 3
Specific target organ toxicity, single exposure	Category 1

DANGER!

GHS LABEL:



Hazard Statements

H225	Highly flammable liquid and vapor
H301	Toxic if swallowed
H311	Toxic in contact with skin
H331	Toxic if inhaled
H370	Causes damage to organs

Safety Data Sheet

Denatured Alcohol

Precautionary Statements

P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition, sources. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/light.../ equipment, etc.
P242	Use only non-sparking tools.
P243	Take precautionary measures to prevent static discharge.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash... thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated are.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302+352	IF ON SKIN: Wash with plenty of water/...
P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P308+311	IF exposed or concerned: Call POISON CENTER/doctor/physician
P311	Call a POISON CENTER or a doctor/physician.
P312	Call a POISON CENTER or a doctor/physician if you feel unwell.
P321	Specific treatment (see ... on this label).
P330	Rinse mouth.
P362+364	Take off immediately all contaminated clothing and wash it before reuse.
P370+378	In case of fire: Use(See Section 5 of SDS) to extinguish.
P403+233	Store in a well ventilated place. Keep container tightly closed.
P403+235	Store in a well ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container to: local/regional/national/international regulations.

Safety Data Sheet

Denatured Alcohol

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Ethyl Alcohol	64-17-5	85%-98%	1000 ppm	1000 ppm
Water	7732-18-5	0-3%	Not Established	Not Established
Methanol	67-56-1	0-5%	200 ppm(Skin)	200 ppm(Skin)

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

Inhalation: Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.

Ingestion: Give large quantities of water . Never give anything by mouth to an unconscious person.
If vomiting occurs, keep head below hips to prevent aspiration into lungs.
Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Carbon Dioxide, dry-chemical or universal type spray foam.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards: Product is flammable and may be ignited by heat, sparks, flames or other sources of ignition (e.g., static electricity, pilot lights or mechanical/electrical equipment). Vapors are heavier than air and may accumulate in low areas. Vapors may travel considerable distance to a source of ignition where they can ignite, flashback or explode. May create vapor/air explosion hazard indoors, outdoors or in sewers. If container is not properly cooled, it can explode in the heat of a fire.

Safety Data Sheet

Denatured Alcohol

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep all sources of ignition and hot metal surfaces away from spill or release.

Any/all persons dealing with the spill should wear appropriate personal protective equipment. Keep others away from spill/leak. Restrict access to area until the spill has been cleaned up.

Environmental Precautions: Prevent liquid from entering drains, sewers or waterways.

Contain spill if it can be done with minimal risk.

Notify proper authorities.

Methods for Cleaning Up: Use proper personal protective equipment. Isolate and secure the area and follow the appropriate emergency guidelines. If local high concentration of airborne mist occurs, dilute spill with plenty of water and ventilate to disperse mist laden air. Sweep up spill and reclaim or place in a covered waste disposal container. Report spill to proper authorities

Using only non-sparking tools and explosion proof equipment, collect spill on absorbent material and put into approved container.

SECTION VII - HANDLING AND STORAGE

- Handling and Storage:**
- Obtain special instructions before use. Wear proper personal protective equipment. Use only in well ventilated areas. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks, and open flame.
 - Store in cool, dry, ventilated area away from any heat source. Storage area should be clearly identified and free of obstruction. Keep containers tightly closed and in an upright position when not in use.
 - Bond and ground all equipment when transferring from one vessel to another. The use of explosion-proof equipment is recommended.
 - "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld, braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources.
 - Keep containers tightly closed in a dry and well-ventilated place.
 - Avoid prolonged breathing of mist or vapor. Wash thoroughly after handling.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Ethyl Alcohol	64-17-5	1000 ppm	1000 ppm
Water	7732-18-5	Not Established	Not Established
Methanol	67-56-1	200 ppm(Skin)	200 ppm(Skin)

Engineering Controls: Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.

Safety Data Sheet

Denatured Alcohol

Monitoring: Follow accepted work practices for handling a flammable material.
Do not eat, drink or smoke in areas where this chemical is used or stored.
Have eye wash stations and safety showers readily available.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Wear safety glasses with un-perforated side shields.
Impervious apron and work boots recommend where splashing may occur.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, Colorless, Liquid
Odor	Alcohol Odor
pH@25°C	-
Melting/Freezing Point	-
Flashpoint	62°F, TCC
Specific Gravity	0.806
Solubility	Complete
Auto-Ignition Temperature	-
Decomposition Temperature	-
VOC Content	95.7% 6.4#/gal
Odor Threshold	-
Boiling Range	147-176°F
Evaporation Point	2.3 (Butyl Acetate=1)
Flammable Limits - Upper	21.1%
Flammable Limits - Lower	3.6%
Vapor Pressure	46.9 mmHg @ 20°C
Vapor Density (Air=1)	1.5 (Air=1)
Viscosity	-

SECTION X - STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: Extreme heat , flame, sparks and other ignition sources.

Hazardous Decomposition/Byproducts: CO, CO₂, and various hydrocarbons under combustion conditions.

Hazardous Polymerization: Will not occur.

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Denatured Alcohol

Polymerization Conditions to Avoid: None known.

Incompatibilities: Strong oxidizing agents

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: May be irritating to mucous membranes and respiratory tract
Low to moderate degree of toxicity by inhalation.

Eye Contact: Causes eye irritation including stinging, watering and redness which may result in corneal injury.

Skin Contact: Contact may cause mild skin irritation including redness, burning and drying/cracking of the skin.
redness, itching or swelling

Ingestion: Aspiration hazard. Can enter the lungs during swallowing or vomiting and cause chemical pneumonia and edema.
Moderate to high degree of toxicity by ingestion. May be harmful or fatal if swallowed.
May produce CNS depression and kidney damage which may be fatal.

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Ethyl Alcohol	Oral - Rat - 7,060 mg/kg	Inhalation - Rat - 10 h - 20000 ppm
Water	Not Established	Not Established
Methanol	Oral - Human - 143 mg/kg; Oral - rat - 1,187 - 2,769 mg/kg;	Inhalation - rat - 4 h - 128.2 mg/l; Inhalation - rat - 6 h - 87.6

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Safety Data Sheet

Denatured Alcohol

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity Not Listed as a Carcinogen

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Information not available.

Mobility: Information not available.

Degradability: No data available.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow Federal, state, and local regulations. If uncontaminated product becomes waste it is regulated as RCRA Waste #D001. Reportable quantity is 40,000 pounds or 5,900 gallons (methanol).

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Alcohols, N.O.S.

Contains: Denatured Ethanol 190

Hazard Class and Label: 3

Identification Number: UN 1987

Packaging Group: II

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Safety Data Sheet

Denatured Alcohol

Acute	Chronic	Fire	Pressure	Reactive
X	X	X		

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

Component Name	CAS #	% by wt.
Methanol	67-56-1	0-5%

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

Component Name	CAS #	% by wt.	RQ (lbs.)
Methanol	67-56-1	0-5%	5,000

CALIFORNIA PROPOSITION 65:

This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

SECTION XVI - OTHER INFORMATION

HMIS Health: 2

HMIS Flammability: 3

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

Disclaimer: The information contained herein is based upon data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ksolv, Inc. assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by this material. Such vendees, users, or third parties assume all risks associated with use of this product.

Safety Data Sheet

Dimethy Adipate

SECTION I - IDENTIFICATION

 Ksolv	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtrec :..... (800) 424-9300
--	---

Product Number KS0172
Product Name Dimethy Adipate
Synonyms None
CAS Number 627-93-0
Date Prepared 4/17/2017
Revision Number
Recommended Use Laboratory chemicals, Manufacture of substances

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Hazardous to the aquatic environment, acute hazard

Category 3

GHS LABEL:

Hazard Statements

H402 Harmful to aquatic life

Safety Data Sheet

Dimethy Adipate

Precautionary Statements

- P273 Avoid release to the environment.
- P501 Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Dimethyl Adipate	627-93-0	100%	Not Established	Not Established

SECTION IV - FIRST AID MEASURES

Contact with eyes: Rinse immediately with plenty of water (for at least 15 minutes). If eye irritation persists: Get medical advice/attention.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

Inhalation: Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.

Ingestion: Get medical attention IMMEDIATELY.
Never give anything by mouth to an unconscious person.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Carbon Dioxide, dry-chemical or universal type spray foam.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards: Carbon Oxides.

Safety Data Sheet

Dimethyl Adipate

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Avoid breathing vapors, mists or gas.

Environmental Precautions: Contain spill if it can be done with minimal risk. Prevent liquid from entering drains, sewers or waterways. Notify proper authorities.

Methods for Cleaning Up: Use absorbent materials such as sand, earth or vermiculate on land spills. Use absorbent booms or skimming devices on water spills

SECTION VII - HANDLING AND STORAGE

Handling and Storage:

- Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Dimethyl Adipate	627-93-0	Not Established	Not Established

Engineering Controls: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Monitoring: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking, using the lavatory and at the end of the working period. Remove contaminated clothing and protective equipment before entering eating areas.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Wear safety glasses with un-perforated side shields.

Respiratory Protection: If good ventilation is not available, wear a respiratory device approved by NIOSH/MSHA for protection against organic vapors, mists and dust. If handling large quantities, use a certified SCBA apparatus.

Safety Data Sheet

Dimethy Adipate

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid, clear, colorless
Odor	ester-like
pH@25°C	No data available
Melting/Freezing Point	8 °C (46 °F) - lit.
Flashpoint	110 °C (230 °F) - closed cup
Specific Gravity	1.062 g/mL at 20 °C (68 °F)
Solubility	25 g/l at 20 °C (68 °F)
Auto-Ignition Temperature	400 °C (752 °F) at 1,013 hPa (760 mmHg)
Decomposition Temperature	No data available
VOC Content	No data available
Odor Threshold	No data available
Boiling Range	109 - 110 °C (228 - 230 °F) at 19 hPa (14 mmHg) - lit.
Evaporation Point	No data available
Flammable Limits - Upper	8.1 %(V)
Flammable Limits - Lower	0.8% (V)
Vapor Pressure	0.08 hPa (0.06 mmHg) at 20 °C (68 °F)
Vapor Density (Air=1)	No data available
Viscosity	No data available

SECTION X - STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to Avoid: Oxidizing agents

Hazardous Decomposition/Byproducts: No data available.

Hazardous Polymerization: No information available.

Polymerization Conditions to Avoid: None known.

Incompatibilities: Strong acids. Strong bases. Strong oxidizers

Safety Data Sheet

Dimethy Adipate

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorbtion

Inhalation: No data available.

Eye Contact: No data available.

Skin Contact: No data available.

Ingestion: No data available.

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Dimethyl Adipate	Oral - Rat - male and female - > 5,000 mg/kg; Dermal - Rabbit -	Not Established

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity Not a known carcinogen

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: This product may be harmful or fatal to plant and animal life if released into the environment.

Mobility: No data available.

Safety Data Sheet

Dimethy Adipate

Degradability: No data available.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Any release equal to or exceeding the RQ (if applicable) must be reported to the National Response Center (800-424-8802) and appropriate state and local regulatory agencies as described in 40 CFR 302.6 and 40 CFR 355.40 respectively. Failure to report may result in substantial civil and criminal penalties. State & local regulations may be more restrictive than federal regulations.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Not Dangerous Goods

Contains:

Hazard Class and Label:

Identification Number:

Packaging Group:

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
N/A	X	N/A	N/A	N/A

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

Safety Data Sheet

Dimethy Adipate

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 0

HMIS Flammability: 1

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

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SAFETY DATA SHEET

SECTION 1 - Identification

1.1 Product Identifier

- Product Name • PPG-4000 Polyol
- Synonyms • Polyether Polyol; Polypropylene Glycol

1.2 Recommended Use of the Chemical and Restrictions on Use

- Recommended Use • Component of Polyurethane
- Restrictions on Use • Industrial use only

1.3 Details of the Supplier of the Safety Data Sheet

- Company • Everchem Specialty Chemicals
1400 N. Providence Rd.
Media, PA 19063
(484) 234-5030

1.4 Emergency Telephone

- Chemtrec • (800) 424-9300 (24-hr number)

SECTION 2 - Hazards Identification

2.1 Classification of the Substance or Mixture

This material is not classified as hazardous under the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

2.2 GHS Label Elements

This material is not classified as hazardous under the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

2.3 Hazards Not Otherwise Classified

None identified

SECTION 3 - Composition/Information on Ingredients

3.1 Substance

Name	Identifier	% (weight)
Polyether Polyol	CAS# 25322-69-4	100

3.2 Mixtures

Material does not meet the criteria of a mixture according to United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

SECTION 4 - First Aid Measures

4.1 Description of First Aid Measures

By route of inhalation	• Remove victim to fresh air.
By route of dermal contact	• Wash thoroughly with soap and water.
By route of eye contact	• Flush with plenty of water.
By route of ingestion	• If victim is conscious, give 1 to 2 glasses of water. Do not induce vomiting unless directed to do so by medical personnel.

4.2 Most Important Symptoms and Effects, Acute and Chronic

Refer to Section 11 Toxicological Information.

4.3 Indication of Immediate Medical Attention and Special Treatment If Needed

Treat symptomatically and supportively.

SECTION 5 - Firefighting Measures

5.1 Extinguishing Media

Suitable Extinguishing Media	• Dry chemical, foam, carbon dioxide, water fog or fine spray.
Unsuitable Extinguishing Media	• Do not use direct water spray. May spread fire.

5.2 Special Hazards Arising From the Substance or Mixture

- May produce oxides of carbon on combustion. Smoke may be toxic and/or irritating.

5.3 Special Protective Actions for Firefighters

- Responding personnel must wear positive-pressure, self-contained breathing apparatus (SCBA) and protective firefighting clothing. Spray cool water on fire exposed containers to reduce risk of rupture.

SECTION 6 - Accidental Release Measures

6.1. Personal Precautions, Protective Equipment, and Emergency Procedures

- Isolate the area. Keep unauthorized people away. Do not touch or walk through the spilled material. Spilled material may be slippery. Ensure adequate ventilation in enclosed area. Eliminate all ignition sources. Use protective equipment appropriate for the size of the spill.

6.1. Environmental Precautions

- Prevent from entering into soil, ditches, sewers, waterways and/or groundwater.

6.3 Methods and Materials for Containment and Clean Up

Methods	<ul style="list-style-type: none"> • Stop leak, dam spill, and transfer liquid into a suitable container. • Collect residue with absorbent and transfer into a suitable container for proper disposal.
Materials	<ul style="list-style-type: none"> • Inert absorbent (sand, earth or similar).

6.4 Reference to Other Sections

- Refer to Section 8 for exposure control and personal protective equipment information.
- Refer to Section 12 for ecological information.

SECTION 7: Handling and Storage

7.1 Precautions for Safe Handling

- Keep containers tightly closed when not in use.
- Do not eat, drink, or smoke in working area.
- Avoid contact with eyes and minimize contact with skin
- Use good safety and industrial hygiene practices.
- Wash thoroughly after handling.

7.2 Conditions for Safe Storage, Including any Incompatibilities

Storage	<ul style="list-style-type: none"> • Store materials in a cool, dry place. Do not transport with oxidizers.
Incompatibilities	<ul style="list-style-type: none"> • Oxidizing materials, strong alkalis and acids, Isocyanates.

SECTION 8: Exposure Controls/ Personal Protection

8.1 Control Parameters

Exposure Limits/Guidelines	<ul style="list-style-type: none"> • None established.
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8.2 Exposure Controls

Engineering Controls	<ul style="list-style-type: none"> • Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable exposure limits.
Eye/Face Protection	<ul style="list-style-type: none"> • Safety glasses with side shields. Chemical goggles if there is a significant risk of splashing.
Respiratory Protection	<ul style="list-style-type: none"> • None required under normal use. If product is heated or sprayed, appropriate respiratory protection may be needed.
Skin Protection	<ul style="list-style-type: none"> • Wear suitable working clothes and shoes.

- Depending on the potential for exposure, chemical resistant gloves may not be needed (e.g. incidental use). As with any chemical, skin contact should be minimized with good work practices and PPE where needed. Wear chemical resistant gloves appropriate for the intended use. Consult glove manufacturers for assistance in choosing appropriate gloves.

Ingestion

- Do not eat, drink or smoke in work area. Wash hands before eating or smoking.

Additional Protection Measures

- None

SECTION 9: Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

Material Description			
Physical Form	• Liquid	Odor	• Low odor
Color	• Clear	Odor Threshold	• No data available
General Properties			
Boiling Point	• No data available	Melting Point	• No data available
Decomposition Temperature	• No data available	pH	• 5.5-6.5
Density (at 25°C)	• No data available	Water Solubility	• Low
Solvent Solubility	• No data available	Viscosity (at 25°C)	• No data available
Explosive Properties	• No data available	Specific Gravity/Relative Density	• 1.02 (H ₂ O=1)
Volatility			
Vapor Pressure	• No data available	Vapor Density	• No data available
Evaporation Rate	• No data available	VOC (Vol.)	• No data available
Volatiles (Vol.)	• No data available		
Flammability			
Flash Point	• >200°F (PMCC)	LEL	• No data available
UEL	• No data available	Flammability (solid, gas)	• No data available
Auto-ignition Temperature	• No data available		
Environmental			
Octanol/Water Partition Coefficient	• No data available		

9.2. Other Information

No additional information available

SECTION 10: Stability and Reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical Stability

Stable under normal temperatures and pressures.

10.3 Possibility of Hazardous Reactions

No hazardous reactions if handled and stored as recommended.

10.4 Conditions to Avoid

Elevated temperatures

10.5 Incompatible Materials

Oxidizing materials, strong alkalis and acids, isocyanates.

10.6 Hazardous Decomposition Products

No data available.

SECTION 11: Toxicological Information

11.1 Information on Toxicological Effects

Acute Toxicity

Chemical	CAS #	LD ₅₀ oral rat	LD ₅₀ dermal rabbit	LC ₅₀ inhalation rat
Polyether Polyol	25322-69-4	>2000 mg/kg	>2000 mg/kg	Not available

Skin Corrosion/Irritation

- Based on available information, skin corrosion/irritation is not expected under normal conditions of use.

Serious Eye Damage/Irritation

- Based on available information, eye damage/irritation criteria are not met.

Respiratory or Skin Sensitization

- Based on available information, sensitization criteria are not met.

Germ Cell Mutagenicity

- Available studies have not indicated this material to be a mutagen.

Carcinogenicity

- This product does not contain any component that is considered a human carcinogen by IARC, ACGIH, OSHA or NTP.

Reproductive Toxicity

- No data available

Specific Target Organ Toxicity (single exposure)

- No data available

Specific Target Organ Toxicity (repeated exposure)

- No data available

Aspiration Hazard

- No data available

11.2 Potential Health Effects

Inhalation

	Acute	• Not expected to be a hazard due to low vapor pressure.
	Chronic	• None known.
Skin		
	Acute	• None known.
	Chronic	• None known.
Eye		
	Acute	• May cause mild irritation.
	Chronic	• None known.
Ingestion		
	Acute	• Small amounts swallowed may cause gastrointestinal discomfort.
	Chronic	• None known.

SECTION 12: Ecological Information

12.1 Ecotoxicity

This product is not expected to cause significant effects in the aquatic environment.

12.2 Persistence and Degradability

No data available

12.3 Bioaccumulative Potential

No data available

12.4 Mobility in Soil

No data available

12.5 Other Adverse Effects

No data available

SECTION 13: Disposal Considerations

13.1 Waste Disposal Method

Product Waste

- Do not dump into any sewers, on the ground, or into any body of water.
- All disposal methods must be in compliance with Federal, State/Provincial, and local regulations.

Packaging Waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

SECTION 14: Transport Information

U.S. DOT

Not regulated as hazardous for shipment.

SECTION 15: Regulatory Information

15.1 Regulatory Status

CERCLA Hazardous Substances (40 CFR 302): None reportable.

SARA 311/312: None reportable.

SARA 313: None reportable.

15.2 US State Regulations

STATE RIGHT-TO-KNOW: To the best of our knowledge, this product contains no chemical known to the State of California to cause cancer, birth defects, or other reproductive harm. (California Health and Safety Code Section 25249.6).

15.3 Canadian Regulations

DSL: All components of this product are listed on, or exempt from the DSL.

WHMIS Information: Not a "Controlled Product" under WHMIS.

15.4 International Inventories*

United States: All components of this product are listed on the TSCA inventory.

Australia: All components of this product are listed on the AICS.

China: All components of this product are listed on the IECSC.

Japan: All components of this product listed on the ENCS.

Korea: All components of this product are listed on the ECL.

Philippines (PICCS): All components of this product are listed on the PICCS.

REACH: Listed as a registered substance.

*=Although a chemical may be listed on a country's inventory, it may not indicate a hazard or regulatory control for use.

SECTION 16: Other Information

16.1 HMIS AND NFPA RATINGS

HMIS Classification

Health: 0

Flammability: 1

Reactivity: 0

NFPA Ratings

Health: 0

Flammability: 1

Instability: 0

Special: None

16.2 EU CLP Relevant Phrase

Not classified

16.3 Preparation By

I.H. Department

16.4 Preparation Date

September 1, 2009

16.5 Last Revision Date

February 17, 2015

16.6 Disclaimer/Statement of Liability

The data in this Safety Data Sheet is offered for your consideration, investigation and verification. The data is presented in good faith and was obtained from sources Everchem believes to be reliable. Everchem, however, makes no representation as to the completeness or accuracy. Everchem makes no warranty, express or implied, with respect to the data contained herein. Everchem cannot anticipate all conditions under which this data and the product may be used. The conditions of handling, storage, use, and disposal of the product are beyond Everchem's control. Thus, we expressly disclaim responsibility or liability for any loss, damage or expense arising out of reliance on the information contained herein. You are advised to make your own determination as to safety, suitability and appropriate manner of handling, storage, use and disposal.

MATERIAL SAFETY DATA SHEET- **EXXAL 13**

SECTION 1

PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: EXXAL 13
Product Description: Alcohol
Intended Use: Chemical feedstock

COMPANY IDENTIFICATION

Supplier: **PON PURE CHEMICALS GROUP**
CHENNAI, TAMILNADU, INDIA

24 Hour Health Emergency (91) 8939878447

(91) 9444038694

Transportation Emergency Phone (91) 9444038517

Company Name	Place	EMERGENCY TELEPHONE NUMBER
Pon Pure Chemicals Group	India	Day Emergency - 044-26161803-26161809

This (M)SDS is a generic document with no country specific information included.

SECTION 2

HAZARDS IDENTIFICATION

This material is hazardous according to UN GHS Criteria. Classification includes all GHS hazard classes. For hazard categories with two cut-off/concentration limits, classification was based on the higher limit.

GHS CLASSIFICATION:

Skin irritation: Category 3.
Aspiration toxicant: Category 2.
Acute aquatic toxicant: Category 1.

GHS Label Elements:

Pictogram:



Signal Word: Warning

Hazard Statements:

Health: H305: May be harmful if swallowed and enters airways. H316: Causes mild skin irritation. Environmental: H400: Very toxic to aquatic life.

Precautionary Statements:

Prevention: P273: Avoid release to the environment.



Response: P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331: Do NOT induce vomiting. P332 + P313: If skin irritation occurs: Get medical advice/attention.
P391: Collect spillage.

Storage: P405: Store locked up.

Disposal: P501: Dispose of contents and container in accordance with local regulations.

Contains: ALCOHOLS C11-C14-ISO-, C13-RICH

Other hazard information:

PHYSICAL / CHEMICAL HAZARDS

No significant hazards.

HEALTH HAZARDS

Mildly irritating to skin. May be irritating to the eyes, nose, throat, and lungs. If swallowed, may be aspirated and cause lung damage.

ENVIRONMENTAL HAZARDS

No additional hazards.

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a complex substance.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
ALCOHOLS C11-C14-ISO-, C13-RICH	68526-86-3	100 %	H305, H316, H400(M factor1)

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

SECTION 4 FIRST AID MEASURES

INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

Seek immediate medical attention. Do not induce vomiting.

ACUTE AND DELAYED SYMPTOMS/EFFECTS

See Toxicological Section

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, alcohol-resistant foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

Inappropriate Extinguishing Media: Straight streams of water or standard foam

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Incomplete combustion products, Oxides of carbon, Smoke, Fume

FLAMMABILITY PROPERTIES

Flash Point [Method]:

122°C (252°F) [ASTM D-93]

Flammable Limits (Approximate volume % in air):

LEL: N/D

UEL: N/D

Autoignition

Temperature: 260°C (500°F)

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required, due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SPILL MANAGEMENT

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. Do not touch or walk through spilled material. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do so without risk. Confine the spill immediately with booms. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek advice of a specialist

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7

HANDLING AND STORAGE

HANDLING

Avoid contact with skin. Flammable levels of hydrogen may build up in the headspace during shipping. As a precautionary measure, truck, rail and ISO container shipments may have been purged with nitrogen before loading. Nitrogen is a simple asphyxiant and containers should be opened in a well ventilated area. For marine shipments, procedures for closed gauging and sampling should be employed. Use proper bonding and/or earthing procedures. However, bonding and earthing may not eliminate the hazard from static accumulation. Prevent small spills and leakage to avoid slip hazard. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight.

Loading/Unloading Temperature: [Ambient]

Transport Temperature: [Ambient]

Transport Pressure: [Ambient]

Static Accumulator: This material is not a static accumulator.

STORAGE

Do not store in open or unlabelled containers. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Storage containers should be earthed and bonded.

Storage Temperature: [Ambient]

Storage Pressure: [Ambient]

Suitable Containers/Packing: Tank Trucks; Tank Cars; Drums

Suitable Materials and Coatings (Chemical Compatibility): Carbon Steel; Stainless Steel; Aluminium; Polypropylene; PTFE; Polyethylene

Unsuitable Materials and Coatings: Natural Rubber; Butyl Rubber; Vinyls

SECTION 8

EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters/Exposure limits:

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit/Standard
ALCOHOLS C11-C14-ISO-, C13-RICH	TWA	50 ppm

Biological limits

No biological limits allocated.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Adequate ventilation should be provided so that exposure limits are not exceeded.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Half-face filter respirator Type A filter material.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Chemical resistant gloves are recommended. Nitrile

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

Chemical/oil resistant clothing is recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9

PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid

Form: Clear

Colour: Colourless

Odour: Alcohol

Odour Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 20 °C):	:	0.85
Density (at 20 °C)	:	850 kg/m³ (7.09 lbs/gal, 0.85 kg/dm³)
Flammability (Solid, Gas):	:	N/A
Flash Point [Method]:	:	122°C (252°F)[ASTM D-93]
Flammable Limits (Approximate volume % in air)	:	
LEL	:	N/D
UEL	:	N/D
Boiling Point / Range:	:	250°C (482°F) -270°C (518°F) -
Decomposition Temperature	:	N/D
Vapour Density (Air = 1):	:	> 1 at 101 kPa
Vapour Pressure:	:	< 0.001 kPa (0.01 mm Hg) at 20 °C 0.003 kPa (0.02 mm Hg) at 50°C
Evaporation Rate (n-butyl acetate = 1)	:	< 0.01
pH	:	N/A
Log Pow (n-Octanol/Water Partition Coefficient)	:	N/D
Solubility in Water:	:	Negligible
Viscosity:	:	16.6 cSt (16.6 mm ² /sec) at 40°C 47 cSt (47 mm ² /sec) at 20°C
Oxidizing Properties:	:	See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: <-40°C (-40°F)
Melting Point: N/A
Molecular Weight: 200
Hygroscopic: No
Coefficient of Thermal Expansion: 0.0008 V/V/DEG C

SECTION 10

STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidisers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11	TOXICOLOGICAL INFORMATION
INFORMATION ON TOXICOLOGICAL EFFECTS	

Hazard Class	Conclusion / Remarks
Inhalation	
Acute Toxicity: (Rat) 6 hour(s) LC50 > 12.2 ppm (Max attainable vapor conc.) Irritation: No end point data for material.	Minimally Toxic. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline Negligible hazard at ambient/normal handling temperatures.
Ingestion	
Acute Toxicity (Rat): LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline
Skin	
Acute Toxicity (Rabbit): LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline
Skin Corrosion/Irritation: Data available.	Mildly irritating to skin with prolonged exposure. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 404
Eye	
Serious Eye Damage/Irritation: Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 405
Sensitisation	
Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: Data available.	Not expected to be a skin sensitizer. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 406
Aspiration: Data available.	May be harmful if swallowed and enters airways. Based on physico-chemical properties of the material.

Germ Cell Mutagenicity: Data available.	Not expected to be a germ cell mutagen. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 471 473 476
Carcinogenicity: No end point data for material.	Not expected to cause cancer.
Reproductive Toxicity: Data available.	Not expected to be a reproductive toxicant. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 414 422
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	Not expected to cause organ damage from a single exposure.
Repeated Exposure: Data available.	Not expected to cause organ damage from prolonged or repeated exposure. Based on test data for structurally similar materials. Test(s) equivalent or similar to OECD Guideline 407 410 422

OTHER INFORMATION

For the product itself:

Vapour concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anaesthetic and may have other central nervous system effects.

IARC Classification:

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = IARC 1

2 = IARC 2A

3

= IARC 2B

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Expected to be very toxic to aquatic organisms.

Material -- Not expected to demonstrate chronic toxicity to aquatic organisms

MOBILITY

Material -- Expected to partition to sediment and wastewater solids. Minimally volatile.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Material -- Expected to be readily biodegradable.

Hydrolysis:

Material -- Transformation due to hydrolysis not expected to be significant.

Photolysis:

Material -- Transformation due to photolysis not expected to be significant.

Atmospheric Oxidation:

Material -- Expected to degrade rapidly in air

BIOACCUMULATION POTENTIAL

Material -- Potential to bioaccumulate is low.

ECOLOGICAL DATA

Ecotoxicity

Test	Duration	Organism Type	Test Results
Aquatic - Acute Toxicity	96 hour(s)	Oncorhynchus mykiss	LC50 0.42 mg/l: data for the material
Aquatic - Acute Toxicity	48 hour(s)	Daphnia magna	LC50 0.71 mg/l

Persistence, Degradability and Bioaccumulation Potential

Media	Test Type	Duration	Test Results
Water	Ready Biodegradability	28 day(s)	Percent Degraded 60.6
Water	Bioaccumulation		BCF >30- <=60

SECTION 13

DISPOSAL CONSIDERATIONS

DISPOSAL METHODS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Suitable routes of disposal are supervised incineration, preferentially with energy recovery, or appropriate recycling methods in accordance with applicable regulations and material characteristics at the time of disposal.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14

TRANSPORT INFORMATION

LAND (ADR/RID)

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tridecyl alcohol)

Hazard Class : 9
Hazchem Code : 3Z
UN Number : 3082
Packing Group : III
Label(s) / Mark(s) : 9, EHS

SEA (IMDG)

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Tridecyl UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S. (Tridecyl Alcohol), 9, PG III, MARINE POLLUTANT

SEA (MARPOL 73/78 Convention - Annex II)

Product Name: NOXIOUS LIQUID, N.F.,(5) N.O.S., (EXXAL 13 ALCOHOL, contains alcohols (C13+))
Ship type: 2
Pollution category: Y

AIR (IATA)

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.
(Tridecyl
alcohol)

Hazard Class & Division 9

UN Number: 3082

Packing Group: III

Label(s) / Mark 9, EHS

Transport Document Na UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.
(Tridecyl alcohol), 9, PG II

SECTION 15

REGULATORY INFORMATION

Material is hazardous according to UN GHS Criteria.

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

Listed or exempt from listing/notification on the following chemical inventories:
AICS, DSL, ENCS, IECSC, KECI, PICCS, TCSI, TSCA

SECTION 16

OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):

H305: May be harmful if swallowed and enters airways;

Aspiration, Cat 2 H316: Causes mild skin irritation; Skin

Corr/Irritation, Cat 3

H400: Very toxic to aquatic life; Acute Env Tox, Cat 1

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

Revision Changes:

Section 04: First Aid Ingestion information was modified.

Section 05: Fire Fighting Measures - Appropriate Extinguishing Media information was modified. Section 11: Eye Irritation Conclusion information was modified.

Section 12: Environmental fate table in section 12 information was modified.

Section 05: Fire Fighting Measures - Inappropriate Extinguishing Media information was modified. Section 07: Handling and Storage - Handling information was modified.

Section 15: EU Inventory Requirements - Header information was modified. Section 14: Proper Shipping Name information was modified.

Section 15: National Chemical Inventory Listing information was modified. Hazard Identification: Health Hazards information was modified.

GHS Health Classification information was modified. GHS Health Hazards information was modified.

GHS Precautionary Statements - Disposal information was modified. GHS Precautionary Statements - Response information was modified. Section 08: Exposure Limits Table information was modified.

Section 11: Oral Lethality Test Guideline information was modified. Section 11: Aspiration Conclusion information was modified. Section 11: Reproductive Test Guideline information was modified.

Section 11: Target Organ Toxicity - Repeat Test Guideline information was modified. GHS Health Symbol information was added.

GHS Precautionary Statements - Storage - Header information was added. GHS Precautionary Statements - Storage information was added

Disclaimer:

The information and recommendations contained herein are, to the best of **Pon Pure Chemicals Group's** knowledge and belief, accurate and reliable as of the date issued. You can contact **Pon Pure Chemicals Group** to insure that this document is the most current available from **Pon Pure Chemicals Group**. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted.

Safety Data Sheet
EXXSOL D80

SECTION I - IDENTIFICATION



K-Solv Chemicals, LLC
9660 Katy Freeway
Houston, TX 77055
(866) 576-5846
Chemtec :..... (800) 424-9300

Product Number ks213
Product Name EXXSOL D80
Synonyms Dearomatized Hydrocarbons
CAS Number 64742-47-8
Date Prepared 4/24/2018
Revision Number
Recommended Use Solvent

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Aspiration Hazard

Category 1

DANGER!

GHS LABEL:



Hazard Statements

H304 May be fatal if swallowed and enters airways

Safety Data Sheet

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Precautionary Statements

P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331	Do NOT induce vomiting.
P405	Store locked up.
P501	Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Petroleum Distillates, Hydrotreated, Light	64742-47-8	100%	500 ppm	500 ppm

SECTION IV - FIRST AID MEASURES

- Contact with eyes:** Immediately flush eyes with large amounts of water or saline solution for at least 15 minutes, occasionally lifting the upper and lower lids. Remove contact lenses, if present and easy to do, after first 2 minutes continue rinsing. If irritation persists, seek medical attention, preferably from an ophthalmologist.
- Skin contact:** Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.
- Inhalation:** Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.
- Ingestion:** Get medical attention IMMEDIATELY.
Do NOT induce vomiting to an unconscious or convulsing person.

SECTION V - FIREFIGHTING MEASURES

- Suitable Extinguishing Media:** Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.
- Special Fire Fighting Procedures** Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.
- Unusual Fire Fighting Hazards:** Hazardous Combustion Products: Carbon Oxides

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SECTION VI - ACCIDENTAL RELEASE MEASURES

- Personal Precautions:** Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact.
- Environmental Precautions:** Contain spill if it can be done with minimal risk. Prevent liquid from entering drains, sewers or waterways. Notify proper authorities.
- Methods for Cleaning Up:** Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Use clean non-sparking tools to collect absorbed material. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Large Spills: Water spray may reduce vapor; but may not prevent ignition in closed spaces. Recover by pumping or with suitable absorbent.
Water Spill: Stop leak if you can do it without risk. Warn other shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants.

SECTION VII - HANDLING AND STORAGE

- Handling and Storage:**
- "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld, braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources.
 - Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Petroleum Distillates, Hydrotreated, Light	64742-47-8	500 ppm	500 ppm

- Engineering Controls:** Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
- Monitoring:** Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking, using the lavatory and at the end of the working period. Remove contaminated clothing and protective equipment

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EXXSOL D80

before entering eating areas.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Impervious apron and work boots recommend where splashing may occur.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid, clear, colorless
Odor	Mild Petroleum/Solvent
pH@25°C	No data available
Melting/Freezing Point	No data available
Flashpoint	82°C (180°F)
Specific Gravity	0.8
Solubility	Negligible
Auto-Ignition Temperature	225°C (437°F)
Decomposition Temperature	No data available
VOC Content	No data available
Odor Threshold	No data available
Boiling Range	208°C (406°F) - 236°C (487°F)
Evaporation Point	<0.01 (n-butyl acetate = 1)
Flammable Limits - Upper	4.9
Flammable Limits - Lower	0.6
Vapor Pressure	0.013 kPa (0.01 mm Hg) at 20°C
Vapor Density (Air=1)	5.9 at 101 kPa
Viscosity	2.05 cSt

SECTION X - STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to Avoid: Extreme heat , flame, sparks and other ignition sources.
Strong oxidizing agents.

Hazardous Decomposition/Byproducts: No data available.

Hazardous Polymerization: No information available.

Polymerization Conditions to Avoid: None known.

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Incompatibilities: Strong oxidizing agents

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: Low to moderate degree of toxicity by inhalation.

Eye Contact: redness, burning, swelling, tearing or pain

Skin Contact: May cause mild skin irritation, redness, itching and inflammation.

Ingestion: Low degree of toxicity by ingestion.

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Petroleum Distillates, Hydrotreated, Light	Oral - rat - > 5000 mg/kg - Dermal - rabbit - >2000mg/kg	Inhalation - rat - >5 mg/l / 4 h

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity Not a known carcinogen

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Not classified in terms of ecotoxicity.

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Mobility: May partition into air, soil, and water.

Degradability: Readily biodegradeable.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Any release equal to or exceeding the RQ (if applicable) must be reported to the National Response Center (800-424-8802) and appropriate state and local regulatory agencies as described in 40 CFR 302.6 and 40 CFR 355.40 respectively. Failure to report may result in substantial civil and criminal penalties. State & local regulations may be more restrictive than federal regulations.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Not Dangerous Goods

Contains:

Hazard Class and Label:

Identification Number:

Packaging Group:

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X	X	N/A	N/A	N/A

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

Safety Data Sheet

EXXSOL D80

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 1

HMIS Flammability: 1

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet:

Email address:

Training necessary:

Disclaimer:

Safety Data Sheet

Glycol Ether DE

SECTION I - IDENTIFICATION

 Ksolv	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtec :..... (800) 424-9300
--	--

Product Number 00054
Product Name Glycol Ether DE
Synonyms Solvent
CAS Number 111-90-0
Date Prepared 7/18/2008
Revision Number 5/20/2019
Recommended Use Industrial Use Only

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Flammable Liquids Category 4

Specific target organ toxicity, single exposure, N Category 3

WARNING!

GHS LABEL:



Hazard Statements

H227 Combustible liquid

H336 May cause dizziness or drowsiness

Safety Data Sheet

Glycol Ether DE

Precautionary Statements

P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition, sources. No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P271	Use only outdoors or in a well-ventilated are.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P304+340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER or a doctor/physician if you feel unwell.
P370+378	In case of fire: Use(See Section 5 of SDS) to extinguish.
P403	Store in a well ventilated place.
P403+233	Store in a well ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Diethylene Glycol Ethyl Ether	111-90-0	< 99.9%	Not Established	Not Established

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

Inhalation: Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.

Ingestion: If swallowed. Wash out mouth thoroughly with water and give plenty of water to drink.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Carbon Dioxide, dry-chemical or universal type spray foam.

Safety Data Sheet

Glycol Ether DE

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards: No unusual fire hazards known.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep all sources of ignition and hot metal surfaces away from spill or release. Evacuate all unprotected personnel from the area.

Environmental Precautions: Contain spill if it can be done with minimal risk. Prevent liquid from entering drains, sewers or waterways. Notify proper authorities.

Methods for Cleaning Up: Using only non-sparking tools and explosion proof equipment, collect spill on absorbent material and put into approved container.

SECTION VII - HANDLING AND STORAGE

Handling and Storage:

- "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld, braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Diethylene Glycol Ethyl Ether	111-90-0	Not Established	Not Established

Engineering Controls: Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.

Monitoring: Follow accepted work and hygiene practices for handling combustible product.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Impervious apron and work boots recommend where splashing may occur.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

Safety Data Sheet

Glycol Ether DE

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Viscous liquid. Colorless
Odor	Sweet Odor
pH@25°C	Not Applicable
Melting/Freezing Point	-104.8°F
Flashpoint	195.8°F
Specific Gravity	0.991 @ 20°C
Solubility	100%
Auto-Ignition Temperature	399.2 °F
Decomposition Temperature	No Data
VOC Content	No Data
Odor Threshold	
Boiling Range	388.4 °F
Evaporation Point	0.013 (butyl acetate = 1)
Flammable Limits - Upper	No Data
Flammable Limits - Lower	No Data
Vapor Pressure	0.1 mm Hg @ 68°F
Vapor Density (Air=1)	No Data
Viscosity	3.85 mPas

SECTION X - STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: Extreme heat , flame, sparks and other ignition sources.
Sparks, fire, and extreme temperatures.
Acids.

Hazardous Decomposition/Byproducts: FIRE: Nitrogen oxides, carbon monoxide and carbon dioxide.
HCN in reducing atmospheres.

Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None known.

Incompatibilities: Strong acids. Strong bases. Strong oxidizers

Safety Data Sheet

Glycol Ether DE

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: Low to moderate degree of toxicity by inhalation.

Eye Contact: This material can cause significant eye irritation.

Skin Contact: Contact may cause mild skin irritation including redness, burning and drying/cracking of the skin.

Ingestion: Low degree of toxicity by ingestion.

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Diethylene Glycol Ethyl Ether	Oral - rat - 10,502 mg/kg; Dermal - rabbit - 9,143 mg/kg	Inhalation - rat - > 200 mg/l

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity Not listed as a carcinogen.

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Information not available.

Mobility: Information not available.

Safety Data Sheet

Glycol Ether DE

Degradability: No data available.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow Federal, state, and local regulations.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Combustible Liquid, N.O.S.

Contains: Glycol Ether DE

Hazard Class and Label:

Identification Number: NA 1993

Packaging Group: III

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X	X	X		

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

Safety Data Sheet

Glycol Ether DE

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 1

HMIS Flammability: 2

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

Disclaimer: The information contained herein is based upon data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ksolv, Inc. assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by this material. Such vendees, users, or third parties assume all risks associated with use of this product.



PRODUCT DATA SHEET

GUM TURPENTINE

PRODUCT DESCRIPTION:

Gum Turpentine is distilled from Pine Resin its components are Alpha Pinene and Beta Pinene. It is a kind of natural essential oil, a mixture of various Terpenoids and Hydrocarbons with special chemical activity

SPECIFICATIONS:

	<u>MIN.</u>	<u>TYPICAL</u>	<u>MAX.</u>
SPECIFIC GRAVITY (20 °C)	0.8500	0.8620	0.8700
REFRACTIVE INDEX (20 °C)	1.4555	1.4650	1.4780
COLOR (APHA)			10
INITIAL DISTILLING POINT:	150 °C		
MOISTURE %	0.1	0.4	1.0
ACID VALUE (mg KOH/g)			1.0
% ALPHA PINENE (GLC METHOD)	75	78	
% BETA PINENE (GLC METHOD)	2.5	3.5	

TYPICAL USES:

In Paint, Synthetic camphor, Terpeneol, Synthetic perfume, Medicine production, Synthetic resin, Organic chemical industry.

AVAILABLE FORMS:

Drums 172 net weight
ISO tank container 20'

PRODUCT SAFETY:

A Material Safety Data Sheet should be obtained prior to the use of this product.

STORAGE AND INVENTORY CONTROLS:

Storage in cool dry and ventilated location, Protect from light. Oldest material should always be used first. Control of inventory must be observed at all times.

DI SCLAI MER

We can not anticipate all conditions under which this information and our products, or the products of other manufacture in combination with our products, may be used. We accept no responsibility for results obtained by the application of this information or the safety and suitability of our products, either alone or in combination with other products. Users are advised to make their own tests to determine the safety and suitability of each such product or product combination for their own purpose. Unless otherwise agreed in written. We sell the products without warranty, and buyers and users assume all responsibility and liability for loss or damage arising from the handling and use of our products, whether used alone or in combination with other products.

PRODUCT NAME: TURPENTINE
DATE PREPARED OR REVISED: April, 2019

Lmn*

Safety Data Sheet

Heptane

SECTION I - IDENTIFICATION

 Ksolv	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtrec :..... (800) 424-9300
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Product Number 00007
Product Name Heptane
Synonyms Solvent
CAS Number Multiple
Date Prepared 10/24/1994
Revision Number 5/20/2019
Recommended Use Industrial Use Only

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Flammable Liquids	Category 2
Aspiration Hazard	Category 1
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2A
Sensitization, Respiratory	Category 1
Hazardous to the aquatic environment, acute hazard	Category 1
Hazardous to the aquatic environment, long-term hazard	Category 1

DANGER!

GHS LABEL:



Hazard Statements

H225	Highly flammable liquid and vapor
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H319	Causes serious eye irritation
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Safety Data Sheet

Heptane

Precautionary Statements

P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition, sources. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/light.../ equipment, etc.
P242	Use only non-sparking tools.
P243	Take precautionary measures to prevent static discharge.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash... thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.
P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302+352	IF ON SKIN: Wash with plenty of water/...
P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
P321	Specific treatment (see ... on this label).
P331	Do NOT induce vomiting.
P332+313	If skin irritation occurs: get medical advice/attention.
P337+313	If eye irritation persists get medical advice/attention.
P342+311	If experiencing respiratory symptoms Call a POISON CENTER or doctor/physician.
P362+364	Take off immediately all contaminated clothing and wash it before reuse.
P370+378	In case of fire: Use(See Section 5 of SDS) to extinguish.
P391	Collect spillage.
P403+235	Store in a well ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container to: local/regional/national/international regulations.

Safety Data Sheet

Heptane

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Heptane, Branched, Cyclic & Linear	426260-76-6	100%	500 ppm (TWA)	400 ppm
Octane	111-65-9	1-4%	500 ppm	400 ppm

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

Inhalation: Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.

Ingestion: If swallowed. Wash out mouth thoroughly with water and give plenty of water to drink.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Carbon Dioxide, dry-chemical or universal type spray foam.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards: Product is flammable and may be ignited by heat, sparks, flames or other sources of ignition (e.g., static electricity, pilot lights or mechanical/electrical equipment). Vapors are heavier than air and may accumulate in low areas. Vapors may travel considerable distance to a source of ignition where they can ignite, flashback or explode. May create vapor/air explosion hazard indoors, outdoors or in sewers. If container is not properly cooled, it can explode in the heat of a fire.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep all sources of ignition and hot metal surfaces away from spill or release.
Any/all persons dealing with the spill should wear appropriate personal protective equipment. Keep others away from spill/leak. Restrict access to area until the spill has been cleaned up.
Product is extremely flammable.

Safety Data Sheet

Heptane

Environmental Precautions: Prevent liquid from entering drains, sewers or waterways.
Contain spill if it can be done with minimal risk.
Notify proper authorities.

Methods for Cleaning Up: Use proper personal protective equipment. Isolate and secure the area and follow the appropriate emergency guidelines. If local high concentration of airborne mist occurs, dilute spill with plenty of water and ventilate to disperse mist laden air. Sweep up spill and reclaim or place in a covered waste disposal container. Report spill to proper authorities
Using only non-sparking tools and explosion proof equipment, collect spill on absorbent material and put into approved container.

SECTION VII - HANDLING AND STORAGE

- Handling and Storage:**
- Store in cool, dry, ventilated area away from any heat source. Storage area should be clearly identified and free of obstruction. Keep containers tightly closed and in an upright position when not in use.
 - Bond and ground all equipment when transferring from one vessel to another. The use of explosion-proof equipment is recommended.
 - "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld, braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources.
 - Keep containers tightly closed in a dry and well-ventilated place.
 - NFPA Class IB storage.
 - Outdoor storage or detached storage may be preferred.
 - Indoor storage must meet OSHA standards and fire codes.
 - If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional ventilation or exhaust systems may be required.
 - Where explosive mixtures may be present, electrical systems safe for such locations must be used.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Heptane, Branched, Cyclic & Linear	426260-76-6	500 ppm (TWA)	400 ppm
Octane	111-65-9	500 ppm	400 ppm

Engineering Controls: Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.

Monitoring: Follow accepted work practices for handling a flammable material.
Do not eat, drink or smoke in areas where this chemical is used or stored.
Have eye wash stations and safety showers readily available.

Personal Protective Equipment (PPE)

Safety Data Sheet

Heptane

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Wear safety glasses with un-perforated side shields.
Impervious apron and work boots recommend where splashing may occur.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, Colorless Liquid
Odor	Light hydrocarbon odor
pH@25°C	-
Melting/Freezing Point	-
Flashpoint	15°F (-9°C) TCC
Specific Gravity	0.693
Solubility	Negligible
Auto-Ignition Temperature	-
Decomposition Temperature	-
VOC Content	100% (5.77#/gal)
Odor Threshold	-
Boiling Range	195°F
Evaporation Point	>1 (Butyl Acetate=1)
Flammable Limits - Upper	6.7%
Flammable Limits - Lower	1.2%
Vapor Pressure	2.3 psi @ 100°F
Vapor Density (Air=1)	3.5 (Air=1)
Viscosity	-

SECTION X - STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to Avoid: Extreme heat , flame, sparks and other ignition sources.

Hazardous Decomposition/Byproducts: CO, CO₂, and various hydrocarbons under combustion conditions.

Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None known.

Incompatibilities: Strong acids and oxidizers

Safety Data Sheet

Heptane

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: May be irritating to mucous membranes and respiratory tract
Low to moderate degree of toxicity by inhalation.

Eye Contact: Causes eye irritation including stinging, watering and redness which may result in corneal injury.

Skin Contact: Contact may cause mild skin irritation including redness, burning and drying/cracking of the skin.

Ingestion: Aspiration hazard. Can enter the lungs during swallowing or vomiting and cause chemical pneumonia and edema.

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Heptane, Branched, Cyclic & Linear	Oral - rat - > 5 g/kg	Inhalation - rat - 103 g/m ³ 4 HR
Octane	Oral - rat - 15,001 mg/kg	Inhalation - rat - 4H/103 g/m ³

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity Not Listed as a Carcinogen

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Information not available.

Mobility: Information not available.

Safety Data Sheet

Heptane

Degradability: No data available.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow Federal, state, and local regulations.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Heptanes

Contains:

Hazard Class and Label: 3

Identification Number: UN 1206

Packaging Group: II

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X		X		

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

Safety Data Sheet

Heptane

CALIFORNIA PROPOSITION 65:

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 1

HMIS Flammability: 3

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

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Safety Data Sheet

Hexylene Glycol

SECTION I - IDENTIFICATION

 Ksolv	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtrec :..... (800) 424-9300
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Product Number 00034
Product Name Hexylene Glycol
Synonyms Solvent
CAS Number 107-41-5
Date Prepared 12/29/1994
Revision Number 5/20/2019
Recommended Use Industrial Use Only

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Flammable Liquids	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2A

WARNING!

GHS LABEL:



Hazard Statements

H227	Combustible liquid
H315	Causes skin irritation
H319	Causes serious eye irritation

Safety Data Sheet

Hexylene Glycol

Precautionary Statements

P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition, sources. No smoking.
P264	Wash... thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+352	IF ON SKIN: Wash with plenty of water/...
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
P321	Specific treatment (see ... on this label).
P332+313	If skin irritation occurs: get medical advice/attention.
P337+313	If eye irritation persists get medical advice/attention.
P362+364	Take off immediately all contaminated clothing and wash it before reuse.
P370+378	In case of fire: Use(See Section 5 of SDS) to extinguish.
P403	Store in a well ventilated place.
P501	Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Hexylene Glycol	107-41-5	100%	25 ppm	25 ppm

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

Inhalation: Remove from exposure, get fresh air. If problems remain or occur later, get medical attention. Self contained breathing apparatus should be worn if exposed to large quantities.

Ingestion: Give large quantities of water . Never give anything by mouth to an unconscious person.
Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Safety Data Sheet

Hexylene Glycol

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Carbon Dioxide, dry-chemical or universal type spray foam.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards: Material will not burn unless pre-heated.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Environmental Precautions:

Methods for Cleaning Up:

SECTION VII - HANDLING AND STORAGE

- Handling and Storage:**
- "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld, braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources.
 - Keep containers tightly closed in a dry and well-ventilated place.
 - Avoid prolonged breathing of mist or vapor. Wash thoroughly after handling.
 - NFPA Class III B storage.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Hexylene Glycol	107-41-5	25 ppm	25 ppm

Engineering Controls: Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.

Monitoring: Follow accepted work practices for handling a flammable material. Do not eat, drink or smoke in areas where this chemical is used or stored. Wash hands prior to eating, drinking or using the restroom.

Personal Protective Equipment (PPE)

Safety Data Sheet

Hexylene Glycol

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Wear safety glasses with un-perforated side shields.
Impervious apron and work boots recommend where splashing may occur.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, Colorless, Slightly Viscous Liquid
Odor	Mild Odor
pH@25°C	N/A
Melting/Freezing Point	122°F (-277.2°C)
Flashpoint	211°F (99.4°C), TCC
Specific Gravity	0.9
Solubility	Complete
Auto-Ignition Temperature	-
Decomposition Temperature	-
VOC Content	100%
Odor Threshold	-
Boiling Range	388°F
Evaporation Point	<0.01(Butyl Acetate=1)
Flammable Limits - Upper	Not Determined
Flammable Limits - Lower	Not Determined
Vapor Pressure	0.05 mmHg @ 20°C
Vapor Density (Air=1)	3.9 (Air=1)
Viscosity	-

SECTION X - STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: None

Hazardous Decomposition/Byproducts: CO and CO₂ and unidentified organic compounds may form during combustion.

Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None known.

Incompatibilities: Strong oxidizing agents

Safety Data Sheet

Hexylene Glycol

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: May be irritating to mucous membranes and respiratory tract

Eye Contact: Causes eye irritation including stinging, watering and redness which may result in corneal injury.

Skin Contact: Contact may cause mild skin irritation including redness, burning and drying/cracking of the skin.
redness, itching or swelling

Ingestion: Aspiration hazard. Can enter the lungs during swallowing or vomiting and cause chemical pneumonia and edema.
severe pain, vomiting, diarrhea and collapse

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Hexylene Glycol	Oral - rat - 3,700 mg/kg - Dermal - rabbit - 7,892 mg/kg	Not Established

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity Not Listed as a Carcinogen

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Information not available.

Mobility: Information not available.

Safety Data Sheet

Hexylene Glycol

Degradability: No data available.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow Federal, state, and local regulations.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Not Regulated

Contains:

Hazard Class and Label:

Identification Number:

Packaging Group:

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X				

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

Safety Data Sheet

Hexylene Glycol

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 3

HMIS Flammability: 1

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

Disclaimer: The information contained herein is based upon data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ksolv, Inc. assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by this material. Such vendees, users, or third parties assume all risks associated with use of this product.

Safety Data Sheet

iso-Butanol

SECTION I - IDENTIFICATION

 Ksolv	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtrec :..... (800) 424-9300
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Product Number 00067
Product Name iso-Butanol
Synonyms
CAS Number 78-83-1
Date Prepared 10/9/2015
Revision Number 1/30/2019
Recommended Use Industrial Use Only

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Flammable Liquids	Category 3
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 1
Specific target organ toxicity, single exposure, R	Category 3
Specific target organ toxicity, single exposure, N	Category 3
Hazardous to the aquatic environment, acute hazard	Category 2
Hazardous to the aquatic environment, long-term hazard	Category 2

DANGER!

GHS LABEL:



Hazard Statements

H226	Flammable liquid and vapor
H315	Causes skin irritation
H318	Causes serious eye damage
H335	May cause respiratory irritation
H336	May cause dizziness or drowsiness
H401	Toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects

Safety Data Sheet

iso-Butanol

Precautionary Statements

P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition, sources. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/light.../ equipment, etc.
P242	Use only non-sparking tools.
P243	Take precautionary measures to prevent static discharge.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash... thoroughly after handling.
P271	Use only outdoors or in a well-ventilated are.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+352	IF ON SKIN: Wash with plenty of water/...
P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
P312	Call a POISON CENTER or a doctor/physician if you feel unwell.
P321	Specific treatment (see ... on this label).
P332+313	If skin irritation occurs: get medical advice/attention.
P362+364	Take off immediately all contaminated clothing and wash it before reuse.
P370+378	In case of fire: Use(See Section 5 of SDS) to extinguish.
P391	Collect spillage.
P403+233	Store in a well ventilated place. Keep container tightly closed.
P403+235	Store in a well ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

Safety Data Sheet

iso-Butanol

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Iso Butanol	78-83-1	100%	100 ppm	50 ppm

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

Inhalation: Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.

Ingestion: If vomiting occurs, keep head below hips to prevent aspiration into lungs. Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Carbon Dioxide, dry-chemical or universal type spray foam.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards: Product is flammable and may be ignited by heat, sparks, flames or other sources of ignition (e.g., static electricity, pilot lights or mechanical/electrical equipment). Vapors are heavier than air and may accumulate in low areas. Vapors may travel considerable distance to a source of ignition where they can ignite, flashback or explode. May create vapor/air explosion hazard indoors, outdoors or in sewers. If container is not properly cooled, it can explode in the heat of a fire.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep all sources of ignition and hot metal surfaces away from spill or release.
Any/all persons dealing with the spill should wear appropriate personal protective equipment. Keep others away from spill/leak. Restrict access to area until the spill has been cleaned up.

Environmental Precautions: Prevent liquid from entering drains, sewers or waterways.
Contain spill if it can be done with minimal risk.
Notify proper authorities.

Safety Data Sheet

iso-Butanol

Methods for Cleaning Up: Use proper personal protective equipment. Isolate and secure the area and follow the appropriate emergency guidelines. If local high concentration of airborne mist occurs, dilute spill with plenty of water and ventilate to disperse mist laden air. Sweep up spill and reclaim or place in a covered waste disposal container. Report spill to proper authorities

Using only non-sparking tools and explosion proof equipment, collect spill on absorbent material and put into approved container.

SECTION VII - HANDLING AND STORAGE

- Handling and Storage:**
- Obtain special instructions before use. Wear proper personal protective equipment. Use only in well ventilated areas. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks, and open flame.
 - Store in cool, dry, ventilated area away from any heat source. Storage area should be clearly identified and free of obstruction. Keep containers tightly closed and in an upright position when not in use.
 - Bond and ground all equipment when transferring from one vessel to another. The use of explosion-proof equipment is recommended.
 - "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld, braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources.
 - Keep containers tightly closed in a dry and well-ventilated place.
 - Avoid prolonged breathing of mist or vapor. Wash thoroughly after handling.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Iso Butanol	78-83-1	100 ppm	50 ppm

Engineering Controls: Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.

Monitoring: Follow accepted work practices for handling a flammable material. Do not eat, drink or smoke in areas where this chemical is used or stored. Have eye wash stations and safety showers readily available.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Wear safety glasses with un-perforated side shields. Impervious apron and work boots recommend where splashing may occur.

Safety Data Sheet

iso-Butanol

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, Colorless Liquid
Odor	Sharp Alcohol Odor
pH@25°C	-
Melting/Freezing Point	-
Flashpoint	82°F, TCC
Specific Gravity	0.8
Solubility	9.5g/100ml water @ 20°C (68°F)
Auto-Ignition Temperature	-
Decomposition Temperature	-
VOC Content	100% (6.6#/gal)
Odor Threshold	-
Boiling Range	226°F
Evaporation Point	0.62 (Butyl Acetate=1)
Flammable Limits - Upper	10.9%
Flammable Limits - Lower	1.2%
Vapor Pressure	8.9 mmHg @ 20°C
Vapor Density (Air=1)	2.55(Air=1)
Viscosity	-

SECTION X - STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: Extreme heat , flame, sparks and other ignition sources.

Hazardous Decomposition/Byproducts: CO, CO₂, and various hydrocarbons under combustion conditions.

Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None known.

Incompatibilities: Strong oxidizing agents

Safety Data Sheet

iso-Butanol

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: May be irritating to mucous membranes and respiratory tract
Low to moderate degree of toxicity by inhalation.

Eye Contact: Causes eye irritation including stinging, watering and redness which may result in corneal injury.

Skin Contact: Contact may cause mild skin irritation including redness, burning and drying/cracking of the skin.
redness, itching or swelling

Ingestion: Aspiration hazard. Can enter the lungs during swallowing or vomiting and cause chemical pneumonia and edema.
Moderate to high degree of toxicity by ingestion. May be harmful or fatal if swallowed.

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Iso Butanol	Oral - Rat - 2,460 mg/kg - Dermal - Rabbit - 3,400 mg/kg	Inhalation - Rat - 4 h - 8000 ppm

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity Not Listed as a Carcinogen.

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Information not available.

Mobility: Information not available.

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iso-Butanol

Degradability: No data available.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow Federal, state, and local regulations. RCRA hazardous waste #U140 if uncontaminated. Meets RCRA ignitable waste characteristics, #D001.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Isobutanol

Contains:

Hazard Class and Label: 3

Identification Number: UN 1212

Packaging Group: III

Other Shipping Info: Reportable Quantity (RQ): 5000 lbs

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X		X		

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

Component Name	CAS #	% by wt.
	78-92-2	100%

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

Safety Data Sheet

iso-Butanol

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 2

HMIS Flammability: 3

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

Disclaimer: The information contained herein is based upon data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ksolv, Inc. assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by this material. Such vendees, users, or third parties assume all risks associated with use of this product.

MATERIAL SAFETY DATA SHEET- ISOPAR H FLUID

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name : ISOPAR H FLUID
Product Description : Isoparaffinic Hydrocarbon
Intended Use : Solvent

COMPANY IDENTIFICATION

Supplier : Pon Pure Chemicals Group
CHENNAI, TAMILNADU, INDIA

24 Hour Health Emergency (91) 8939878447
(91) 9444038694

Transportation Emergency (91) 9444038517
Phone

Company Name	Place	EMERGENCY TELEPHONE NUMBER
Pon Pure Chemicals Group	CHENNAI	Day Emergency – 044-26161803-26161809

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)

Name	CAS#	Concentration*
NAPHTHA (PETROLEUM), HYDROTREATED HEAVY	64742-48-9	100%

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

SECTION 3 HAZARDS IDENTIFICATION

This material is considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL PHYSICAL / CHEMICAL EFFECTS

Combustible. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited. Material can accumulate static charges which may cause an ignition.

POTENTIAL HEALTH EFFECTS

SECTION 5**FIRE FIGHTING MEASURES****EXTINGUISHING MEDIA**

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

Inappropriate Extinguishing Media: Straight Streams of Water

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Vapors are flammable and heavier than air. Vapors may travel across the ground and reach remote ignition sources causing a flashback fire danger. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

Hazardous Combustion Products: Smoke, Fume, Incomplete combustion products, Oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point [Method] : >49C (120F) [ASTM D-56]

Flammable Limits (Approximate volume % in air): LEL: 0.7 UEL: 5.4

Autoignition Temperature : 365°C (689°F)

SECTION 6**ACCIDENTAL RELEASE MEASURES****NOTIFICATION PROCEDURES**

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for

Personal Protective Equipment.

SPILL MANAGEMENT

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Use clean non-sparking tools to collect absorbed material. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Large Spills: Water spray may reduce vapor; but may not prevent ignition in closed spaces.

Water Spill: Stop leak if you can do it without risk. Eliminate sources of ignition. Warn other shipping. If the Flash Point exceeds the Ambient Temperature by 10 degrees C or more, use containment booms and remove from the surface by skimming or with suitable absorbents when conditions permit. If the Flash Point does not exceed the Ambient Air Temperature by at least 10C, use booms as a barrier to protect shorelines and allow material to evaporate. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7

HANDLING AND STORAGE

HANDLING

Avoid contact with skin. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source). Use proper bonding and/or ground procedures. However,

bonding and grounds may not eliminate the hazard from static accumulation. Consult local applicable standards for guidance. Additional references include American Petroleum Institute 2003 (Protection Against Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practice on Static Electricity) or CENELEC CLC/TR 50404 (Electrostatics - Code of practice for the avoidance of hazards due to static electricity).

Loading/Unloading Temperature : [Ambient]
Transport Temperature : [Ambient]
Transport Pressure : [Ambient]

Static Accumulator: This material is a static accumulator. A liquid is typically considered a nonconductive, static accumulator if its conductivity is below 100 pS/m (100×10^{-12} Siemens per meter) and is considered a semi conductive, static accumulator if its conductivity is below 10,000 pS/m. Whether a liquid is nonconductive or semiconductive, the precautions are the same. A number of factors, for example liquid temperature, presence of contaminants, anti-static additives and filtration can greatly influence the conductivity of a liquid.

STORAGE

The container choice, for example storage vessel, may effect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Storage containers should be grounded and bonded. Fixed storage containers, transfer containers and associated equipment should be grounded and bonded to prevent accumulation of static charge.

Storage Temperature : [Ambient]
Storage Pressure : [Ambient]
Suitable Containers/Packing : Tankers; Railcars; Tank Trucks; Barges; Drums

Suitable Materials and Coatings (Chemical Compatibility): Inorganic Zinc Coatings; Amine Epoxy; Polyamide Epoxy; Epoxy Phenolic; Neoprene; Carbon Steel; Stainless Steel

Unsuitable Materials and Coatings: Vinyl Coatings; Natural Rubber; Butyl Rubber; Ethylene-propylene-diene monomer (EPDM); Polystyrene

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Source	Form	Limit / Standard			NOTE	Source
NAPHTHA (PETROLEUM), HYDROTREATED HEAVY	Vapor.	RCP	- 1200	177 ppm	Total	Exxon
		TWA	mg/m3		Hydrocarbons	Mobil

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Adequate ventilation should be provided so that exposure limits are not exceeded.

Use explosion-proof ventilation equipment.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

Half-face filter respirator

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Chemical resistant gloves are recommended.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

Chemical/oil resistant clothing is recommended.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS

See Sections 6, 7, 12, 13.

SECTION 9

PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION

Physical State	: Liquid
Form	: Clear
Color	: Colorless
Odor	: Odorless
Odor Threshold	: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15.6 C)	: 0.759
Density	: 759 kg/m ³ (6.33 lbs/gal, 0.76 kg/dm ³)
Flash Point [Method]	: >49C (120F) [ASTM D-56]
Flammable Limits (Approximate volume % in air):	LEL: 0.7 UEL: 5.4
Autoignition Temperature	: 365°C (689°F)
Boiling Point / Range	: 171C (340F) - 191C (376F)
Vapor Density (Air = 1)	: 5.4 at 101 kPa [Calculated]
Vapor Pressure	: 0.106 kPa (0.8 mm Hg) at 20 C
Evaporation Rate (n-butyl acetate = 1):	0.16
pH	: N/A
Log Pow (n-Octanol/Water Partition Coefficient):	N/D
Solubility in Water	: Negligible
Viscosity	: 1.39 cSt (1.39 mm ² /sec) at 40 C 1.8 cSt (1.8 mm ² /sec) at 25C
Oxidizing Properties	: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point	: N/D
Melting Point	: N/A
Pour Point	: -63°C (-81°F)
Molecular Weight	: 155
Hygroscopic	: No
Coefficient of Thermal Expansion:	0.00079 V/VDEGC

SECTION 10**STABILITY AND REACTIVITY**

STABILITY	: Material is stable under normal conditions.
CONDITIONS TO AVOID	: Avoid heat, sparks, open flames and other ignition sources.
MATERIALS TO AVOID	: Strong oxidizers
HAZARDOUS DECOMPOSITION PRODUCTS:	Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION : Will not occur.

SECTION 11	TOXICOLOGICAL INFORMATION
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ACUTE TOXICITY

<u>Route of Exposure</u>	<u>Conclusion / Remarks</u>
Inhalation	
Toxicity: Data available.	Minimally Toxic. Based on test data for the material.
Irritation: Data available.	Negligible hazard at ambient/normal handling temperatures. Based on test data for structurally similar materials.
Ingestion	
Toxicity: LD50 > 10000 mg/kg	Minimally Toxic. Based on test data for the material.
Skin	
Toxicity: LD50 > 3160 mg/kg	Minimally Toxic. Based on test data for the material.
Irritation: Data available.	Mildly irritating to skin with prolonged exposure. Based on test data for the material.
Eye	
Irritation: Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for the material.

CHRONIC/OTHER EFFECTS

For the product itself:

Vapor/aerosol concentrations above recommended exposure levels are irritating to the eyes and respiratory tract, may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness and other central nervous system effects including death.

Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC

3 = IARC 1

5 = IARC 2B

2 = NTP SUS

4 = IARC 2A

6 = OSHA CARC

SECTION 12**ECOLOGICAL INFORMATION**

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- May cause long-term adverse effects in the aquatic environment.

PERSISTENCE AND DEGRADABILITY**Biodegradation:**

Material -- Expected to be readily biodegradable.

Hydrolysis:

Material -- Transformation due to hydrolysis not expected to be significant.

Photolysis:

Material -- Transformation due to photolysis not expected to be significant.

Atmospheric Oxidation:

Material -- Expected to degrade rapidly in air

OTHER ECOLOGICAL INFORMATION

VOC (EPA Method 24): 6.334 lbs/gal

SECTION 13**DISPOSAL CONSIDERATIONS**

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP). Potential RCRA characteristics: IGNITABILITY.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14**TRANSPORT INFORMATION****LAND (DOT)**

Proper Shipping Name : PETROLEUM DISTILLATES, N.O.S.
Hazard Class & Division : COMBUSTIBLE LIQUID
ID Number : 1268
Packing Group : III
ERG Number : 128
Label(s) : NONE
Transport Document Name: UN1268, PETROLEUM DISTILLATES, N.O.S., COMBUSTIBLE LIQUID, PG III

Footnote: The flash point of this material is greater than 100 F. Regulatory classification of this material varies. DOT: Flammable liquid or combustible liquid. OSHA: Combustible liquid. IATA/IMO: Flammable liquid. This material is not regulated under 49 CFR in a container of 119 gallon capacity or less when transported solely by land, as long as the material is not a hazardous waste, a marine pollutant, or specifically listed as a hazardous substance.

LAND (TDG)

Proper Shipping Name : PETROLEUM DISTILLATES, N.O.S.
Hazard Class & Division : 3
UN Number : 1268
Packing Group : III

SEA (IMDG)

Proper Shipping Name : PETROLEUM DISTILLATES, N.O.S.
Hazard Class & Division : 3
EMS Number : F-E, S-E

UN Number : 1268
Packing Group : III
Label(s) : 3
Transport Document Name : UN1268, PETROLEUM DISTILLATES,
N.O.S., 3, PG III, (49°C c.c.)

AIR (IATA)

Proper Shipping Name : PETROLEUM DISTILLATES, N.O.S.
Hazard Class & Division : 3
UN Number : 1268
Packing Group : III
Label(s) / Mark(s) : 3
Transport Document Name : UN1268, PETROLEUM DISTILLATES, N.O.S.,
3, PG III

SECTION 15

REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purpose, this material is classified as hazardous in accordance with OSHA 29CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING: AICS, IECSC, DSL, EINECS, ENCS, KECI, PICCS, TSCA

EPCRA: This material contains no extremely hazardous substances.

CERCLA: This material is not subject to any special reporting under the requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Contact local authorities to determine if other reporting requirements apply.

CWA / OPA: This product is classified as an oil under Section 311 of the Clean Water Act (40 CFR 110) and the Oil Pollution Act of 1990. Discharge or spills which produce a visible sheen on either surface water, or in waterways/sewers which lead to surface water, must be reported to the National Response Center at 800-424-8802.

SARA (311/312) REPORTABLE HAZARD CATEGORIES: Fire.

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

Code key: CARC=Carcinogen; REPRO=Reproductive

SECTION 16

OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

Revision Changes:

Section 04: First Aid Skin - Header was modified.

Section 09: Physical State was modified.

Section 09: Evaporation Rate - Header was modified.

Section 07: Handling and Storage - Handling was modified.

Section 07: Handling and Storage - Storage Phrases was modified.

Hazard Identification: Physical/Chemical Hazard was modified.

Section 07: Static Accumulator was modified.

Section 07: Suitable Materials and Coatings - Header was modified.

Section 07: Materials/Coatings - Suitable was modified.

Section 07: Materials/Coatings - Unsuitable was modified.

Section 09: Viscosity was modified.

Section 09: Viscosity was modified.

Composition: Component table was modified.

Section 16: Precautions was modified.

Section 16: Physical Hazards additional was modified.

Section 16: NA Contains was modified.

Section 08: Exposure Limits Table was modified.

PRECAUTIONARY LABEL TEXT:

Contains: NAPHTHA (PETROLEUM), HYDROTREATED HEAVY
CAUTION!

HEALTH HAZARDS

Repeated exposure may cause skin dryness or cracking. If swallowed, may be aspirated and cause lung damage.

PHYSICAL HAZARDS

Combustible - Material can accumulate static charges, which may cause an ignition.

PRECAUTIONS

Avoid contact with skin. Use proper bonding and/or ground procedures. However, bonding and grounds may not eliminate the hazard from static accumulation.

FIRST AID

Inhalation: Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

Eye : Flush thoroughly with water. If irritation occurs, get medical assistance.

Oral : Seek immediate medical attention. Do not induce vomiting.

Skin : Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.

FIRE FIGHTING MEDIA

Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

SPILL/LEAK

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Prevent entry into waterways, sewer, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Water Spill: Stop leak if you can do it without risk. Eliminate sources of ignition. Warn other shipping. If the Flash Point exceeds the Ambient Temperature by 10 degrees C or more, use containment booms and remove from the surface by skimming or with suitable absorbents when conditions permit. If the Flash Point does not exceed the

Ambient Air Temperature by at least 10C, use booms as a barrier to protect shorelines and allow material to evaporate. Seek the advice of a specialist before using dispersants.

Disclaimer:

The information and recommendations contained herein are, to the best of **Pon Pure Chemicals Group** knowledge and belief, accurate and reliable as of the date issued. You can contact **Pon Pure Chemicals Group** to insure that this document is the most current available from **Pon Pure Chemicals Group**. The information and recommendations are offered for the user's consideration and examination. It is the user's responsibility to satisfy itself that the product is suitable for the intended use. If buyer repackages this product, it is the user's responsibility to insure proper health, safety and other necessary information is included with and/or on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, re-publication or retransmission of this document, in whole or in part, is not permitted.

Safety Data Sheet
ISOPAR™ M FLUID

SECTION I - IDENTIFICATION

 Ksolv	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtec :..... (800) 424-9300
--	--

Product Number 11121
Product Name ISOPAR™ M FLUID
Synonyms
CAS Number 64742-47-8
Date Prepared 11/10/2015
Revision Number 11/10/2015
Recommended Use Isoparaffinic Hydrocarbon Solvent

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Aspiration Hazard

Category 1

DANGER!

GHS LABEL:



Hazard Statements

H304 May be fatal if swallowed and enters airways

Safety Data Sheet

ISOPAR™ M FLUID

Precautionary Statements

P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331	Do NOT induce vomiting.
P405	Store locked up.
P501	Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Petroleum Distillates, Hydrotreated, Light	64742-47-8	100	500 ppm	500 ppm

SECTION IV - FIRST AID MEASURES

- Contact with eyes:** Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
- Skin contact:** Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.
- Inhalation:** Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.
- Ingestion:** If swallowed. Wash out mouth thoroughly with water and give plenty of water to drink.

SECTION V - FIREFIGHTING MEASURES

- Suitable Extinguishing Media:** Carbon Dioxide, dry-chemical or universal type spray foam.
- Special Fire Fighting Procedures** Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.
- Unusual Fire Fighting Hazards:** Product is flammable and may be ignited by heat, sparks, flames or other sources of ignition (e.g., static electricity, pilot lights or mechanical/electrical equipment). Vapors are heavier than air and may accumulate in low areas. Vapors may travel considerable distance to a source of ignition where they can ignite, flashback or explode. May create vapor/air explosion hazard indoors, outdoors or in sewers. If container is not properly cooled, it can explode in the heat of a fire.

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SECTION VI - ACCIDENTAL RELEASE MEASURES

- Personal Precautions:** Keep all sources of ignition and hot metal surfaces away from spill or release.
Any/all persons dealing with the spill should wear appropriate personal protective equipment. Keep others away from spill/leak. Restrict access to area until the spill has been cleaned up.
- Environmental Precautions:** Prevent liquid from entering drains, sewers or waterways.
Contain spill if it can be done with minimal risk.
Notify proper authorities.
- Methods for Cleaning Up:** Use proper personal protective equipment. Isolate and secure the area and follow the appropriate emergency guidelines. If local high concentration of airborne mist occurs, dilute spill with plenty of water and ventilate to disperse mist laden air. Sweep up spill and reclaim or place in a covered waste disposal container. Report spill to proper authorities
Using only non-sparking tools and explosion proof equipment, collect spill on absorbent material and put into approved container.

SECTION VII - HANDLING AND STORAGE

- Handling and Storage:**
- Store in cool, dry, ventilated area away from any heat source. Storage area should be clearly identified and free of obstruction. Keep containers tightly closed and in an upright position when not in use.
 - Bond and ground all equipment when transferring from one vessel to another. The use of explosion-proof equipment is recommended.
 - "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld, braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources.
 - Keep containers tightly closed in a dry and well-ventilated place.
 - Avoid prolonged breathing of mist or vapor. Wash thoroughly after handling.
 - NFPA Class III B storage.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Petroleum Distillates, Hydrotreated, Light	64742-47-8	500 ppm	500 ppm

- Engineering Controls:** Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.
- Monitoring:** Follow accepted work practices for handling a flammable material.
Do not eat, drink or smoke in areas where this chemical is used or stored.
Have eye wash stations and safety showers readily available.

Personal Protective Equipment (PPE)

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Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Wear safety glasses with un-perforated side shields.
Impervious apron and work boots recommend where splashing may occur.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, Colorless
Odor	Odorless
pH@25°C	N/A
Melting/Freezing Point	not available
Flashpoint	203°F (ASTM D-93)
Specific Gravity	0.789
Solubility	Negligible
Auto-Ignition Temperature	419°F
Decomposition Temperature	-
VOC Content	100% (6.58#/gal)
Odor Threshold	-
Boiling Range	435-489°F
Evaporation Point	<0.01 (Water=1)
Flammable Limits - Upper	4.9%
Flammable Limits - Lower	0.6%
Vapor Pressure	0.03 mmHg @ 20°C
Vapor Density (Air=1)	6.5 (Air=1)
Viscosity	-

SECTION X - STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: Extreme heat , flame, sparks and other ignition sources.

Hazardous Decomposition/Byproducts: FIRE: Nitrogen oxides, carbon monoxide and carbon dioxide.
HCN in reducing atmospheres.

Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None known.

Incompatibilities: Strong oxidizing agents

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SECTION XI - TOXICOLOGICAL INFORMATION

- Likely Route of Exposure:** Routes of entry: inhalation, skin & eyes, ingestion, skin absorption
- Inhalation:** May cause respiratory tract irritation. Inhalation of vapors may cause drowsiness and dizziness.
- Eye Contact:** Causes eye irritation including stinging, watering and redness which may result in corneal injury.
- Skin Contact:** Contact may cause mild skin irritation including redness, burning and drying/cracking of the skin.
redness, itching or swelling
- Ingestion:** Aspiration hazard. Can enter the lungs during swallowing or vomiting and cause chemical pneumonia and edema.
- Acute Toxicity Value:** See Health Hazards below.
- Chronic (Long Term) Effects:** See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Petroleum Distillates, Hydrotreated, Light	Oral - rat - > 5000 mg/kg - Dermal - rabbit - >2000mg/kg	Inhalation - rat - >5 mg/l / 4 h

- Reproductive Effects** Not Applicable
- Teratogenicity** Not Applicable
- Mutagenicity** Not Applicable
- Embryotoxicity** Not Applicable
- Sensitization to Product** Not Applicable
- Synergistic Products** Not Applicable
- Carcinogenicity** Not Listed as a Carcinogen

SECTION XII - ECOLOGICAL INFORMATION

- Ecotoxicity:** Information not available.
- Mobility:** Information not available.

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Degradability: No data available.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow Federal, state, and local regulations.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Not Regulated for Land Transport

Contains:

Hazard Class and Label:

Identification Number:

Packaging Group:

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X		X		

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

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No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 1
HMIS Flammability: 1
HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

Disclaimer: The information contained herein is based upon data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ksolv, Inc. assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by this material. Such vendees, users, or third parties assume all risks associated with use of this product.

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K-1 Solvent

SECTION I - IDENTIFICATION



K-Solv Chemicals, LLC
9660 Katy Freeway
Houston, TX 77055
(866) 576-5846
Chemtrec :..... (800) 424-9300

Product Number 00018
Product Name K-1 Solvent
Synonyms
CAS Number Multiple
Date Prepared 5/28/2015
Revision Number 5/28/2015
Recommended Use Industrial Use Only

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Flammable Liquids	Category 3
Aspiration Hazard	Category 1
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2B
Specific target organ toxicity, single exposure, N	Category 3
Carcinogenicity	Category 2
Hazardous to the aquatic environment, long-term hazard	Category 2

DANGER!

GHS LABEL:



Hazard Statements

H226	Flammable liquid and vapor
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H320	Causes eye irritation
H336	May cause dizziness or drowsiness
H351	Suspected of causing cancer
H411	Toxic to aquatic life with long lasting effects

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Precautionary Statements

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition, sources. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/light.../ equipment, etc.
P242	Use only non-sparking tools.
P243	Take precautionary measures to prevent static discharge.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash... thoroughly after handling.
P271	Use only outdoors or in a well-ventilated are.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302+352	IF ON SKIN: Wash with plenty of water/...
P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
P308+313	IF exposed or concerned: get medical advice/attention.
P312	Call a POISON CENTER or a doctor/physician if you feel unwell.
P321	Specific treatment (see ... on this label).
P331	Do NOT induce vomiting.
P332+313	If skin irritation occurs: get medical advice/attention.
P337+313	If eye irritation persists get medical advice/attention.
P362+364	Take off immediately all contaminated clothing and wash it before reuse.
P370+378	In case of fire: Use..... to extinguish.
P391	Collect spillage.
P403+233	Store in a well ventilated place. Keep container tightly closed.

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- P403+235 Store in a well ventilated place. Keep cool.
- P405 Store locked up.
- P501 Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Kerosene	8008-20-6	100	5 mg/l	5 mg/l
Naphthalene	91-20-3	0-3	10 ppm	10 ppm
Ethylbenzene	100-41-4	0-1	100 ppm	100 ppm

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

Inhalation: Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.

Ingestion: If swallowed. Wash out mouth thoroughly with water and give plenty of water to drink.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Carbon Dioxide, dry-chemical or universal type spray foam.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards: Product is flammable and may be ignited by heat, sparks, flames or other sources of ignition (e.g., static electricity, pilot lights or mechanical/electrical equipment). Vapors are heavier than air and may accumulate in low areas. Vapors may travel considerable distance to a source of ignition where they can ignite, flashback or explode. May create vapor/air explosion hazard indoors, outdoors or in sewers. If container is not properly cooled, it can explode in the heat of a fire.

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SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep all sources of ignition and hot metal surfaces away from spill or release.

Any/all persons dealing with the spill should wear appropriate personal protective equipment. Keep others away from spill/leak. Restrict access to area until the spill has been cleaned up.

Environmental Precautions: Prevent liquid from entering drains, sewers or waterways.

Contain spill if it can be done with minimal risk.

Notify proper authorities.

Methods for Cleaning Up: Use proper personal protective equipment. Isolate and secure the area and follow the appropriate emergency guidelines. If local high concentration of airborne mist occurs, dilute spill with plenty of water and ventilate to disperse mist laden air. Sweep up spill and reclaim or place in a covered waste disposal container. Report spill to proper authorities

Using only non-sparking tools and explosion proof equipment, collect spill on absorbent material and put into approved container.

SECTION VII - HANDLING AND STORAGE

- Handling and Storage:**
- Store in cool, dry, ventilated area away from any heat source. Storage area should be clearly identified and free of obstruction. Keep containers tightly closed and in an upright position when not in use.
 - Bond and ground all equipment when transferring from one vessel to another. The use of explosion-proof equipment is recommended.
 - "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld, braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources.
 - Keep containers tightly closed in a dry and well-ventilated place.
 - Avoid prolonged breathing of mist or vapor. Wash thoroughly after handling.
 - NFPA Class II storage.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Kerosene	8008-20-6	5 mg/l	5 mg/l
Naphthalene	91-20-3	10 ppm	10 ppm
Ethylbenzene	100-41-4	100 ppm	100 ppm

Engineering Controls: Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.

Monitoring: Follow accepted work practices for handling a flammable material. Do not eat, drink or smoke in areas where this chemical is used or stored. Have eye wash stations and safety showers readily available.

Personal Protective Equipment (PPE)

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Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Wear safety glasses with un-perforated side shields.
Impervious apron and work boots recommend where splashing may occur.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, Light Yellow to Red Liquid
Odor	Distinct Kerosene Odor
pH@25°C	-
Melting/Freezing Point	Gel point ~-15°F
Flashpoint	100°F, TCC minimum
Specific Gravity	0.8
Solubility	Negligible
Auto-Ignition Temperature	-
Decomposition Temperature	-
VOC Content	100%
Odor Threshold	0.1-1 ppm
Boiling Range	310 - 702°F
Evaporation Point	Not Established
Flammable Limits - Upper	5.0%
Flammable Limits - Lower	0.7%
Vapor Pressure	< 2 mmHg @ 100°F
Vapor Density (Air=1)	>4.5 (Air=1)
Viscosity	-

SECTION X - STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: Extreme heat , flame, sparks and other ignition sources.

Hazardous Decomposition/Byproducts: CO, CO2, and noxious smoke under extreme fire conditions

Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None known.

Incompatibilities: Strong oxidizing agents

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SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: May be irritating to mucous membranes and respiratory tract
Low to moderate degree of toxicity by inhalation.

Eye Contact: Causes eye irritation including stinging, watering and redness which may result in corneal injury.

Skin Contact: Contact may cause mild skin irritation including redness, burning and drying/cracking of the skin.
redness, itching or swelling

Ingestion: Aspiration hazard. Can enter the lungs during swallowing or vomiting and cause chemical pneumonia and edema.

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Kerosene		
Naphthalene	Oral - rat - 490.0 mg/kg; Dermal - rabbit - 20,000 mg/kg	Inhalation - rat - 1 h - > 340 mg/m ³
Ethylbenzene	Oral - rat - 3500 mg/kg - Dermal - rabbit - 15,500 mg/kg	Inhalation -rat - 4H/18 mg/l

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity Not Listed as a Carcinogen, However Lifetime Skin Painting Studies in Anim

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SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Information not available.

Mobility: Information not available.

Degradability: No data available.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow Federal, state, and local regulations. If product becomes waste in an uncontaminated form, it will meet the flammability standard for RCRA Waste #D003.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Combustible Liquid, N.O.S. , 3

Contains:

Hazard Class and Label: Combustible - Bulk Only

Identification Number: NA 1993

Packaging Group: III

Other Shipping Info: Reportable Quantity (RQ): 100 lbs

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X	X	X		

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

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Component Name	CAS #	% by wt.
Naphthalene	91-20-3	0-3
Ethylbenzene	100-41-4	0-1

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

Component Name	CAS #	% by wt.	RQ (lbs.)
Naphthalene	91-20-3	0-3	100
Ethylbenzene	100-41-4	0-1	1,000

CALIFORNIA PROPOSITION 65:

This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

SECTION XVI - OTHER INFORMATION

HMIS Health: 1

HMIS Flammability: 2

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet:

Email address:

Training necessary:

Disclaimer:



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Safety Data Sheet

Document Group: 342244 Version Number: 1.01

SECTION 1: Identification

1.1. Product identifier

KB 1410

1.2. Recommended use and restrictions on use

Recommended use

Various

Restrictions on use

Industrial use only

1.3. Supplier's details

Address: KMCO, LLC
16503 Ramsey Road
Crosby TX 77531 US

24 hour Emergency- Int'l: 1-800-424-9300

24 hour Emergency - US/CA: 1-800-424-9300

General: 281-328-3501

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

The product meets the criteria for classification in accordance with OSHA HazCom 2012 Regulation No 1910.1200.

Serious Eye Damage/Irritation: Category 1.

Skin Corrosion/Irritation: Category 2.

Acute Aquatic Toxicity: Category 2.

2.2. Label elements

Signal word:

Danger

Pictograms:



Hazard statements:

Causes serious eye damage.



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Causes skin irritation.
Toxic to aquatic life.

Precautionary statements:

Prevention:

Wash thoroughly after handling.
Avoid release to the environment.
Wear eye/face protection.
Wear protective gloves.

Response:

IF ON SKIN: Wash with plenty of soap and water.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.
Specific treatment (see Notes to Physician on this label).
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.

2.3. Other hazards

None known

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable.

3.2 Mixtures

Name	CAS#	Concentration
Alkoxylated Polyamines	n/a	> 99

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

First aid is normally not anticipated. Seek medical attention if discomfort occurs.

Skin Contact:

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:

Immediately flush the contaminated eye(s) with water for at least 60 minutes, while holding the eyelid(s) open. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Neutral saline solution may be used as soon as it is available. DO NOT INTERRUPT FLUSHING. Contact a physician or poison control center immediately. Continue flushing the eye(s) until the physician advises to stop. If necessary, continue flushing during transport to an emergency care facility.



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If Swallowed:

If swallowed, only induce vomiting as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Corrosive (Eye Burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision. Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.

4.3. Indication of any immediate medical attention and special treatment required

The need to have special means for providing specific and immediate medical treatment available in the workplace is not expected.

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

In case of fire: Use dry powder, carbon dioxide or water fog to extinguish.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Unidentified organic compounds	During Combustion

5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment. Prevent entry into waterways, sewers, basements or confined areas.

6.3. Methods and material for containment and cleaning up

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Use wet sweeping compound or water to avoid dusting. Sweep up. Seal the container. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Clean up residue.



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6.4. Reference to other sections

See Section 5 for fire-fighting information. See Section 2 for the hazard identification. See Section 4 for first aid advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Wash contaminated clothing before reuse. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use only with adequate ventilation. Avoid breathing mist or vapor. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

This product does not contain any components which have exposure limits.

8.2. Exposure controls

8.2.1. Engineering controls

No special requirements under ordinary conditions of use and with adequate ventilation.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Eye washes and showers for emergency use. Chemical goggles and face shield are recommended.

Skin protection

Protective clothing should be chemical resistant.

Hand protection

Chemical resistant gloves are recommended.

Respiratory protection

No special requirements under ordinary conditions of use and with adequate ventilation.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Color	Amber



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Odor	Ether-like
Melting point/Freezing point	< -31.7 °C
Boiling point/Initial boiling point/Boiling range	341.5 °C
Flammability (solid, gas)	<i>Not Applicable</i>
Flammable Limits (LEL)	<i>No Data Available</i>
Flammable Limits (UEL)	<i>No Data Available</i>
Flash Point	> 185 °C
Autoignition temperature	<i>No Data Available</i>
Decomposition temperature	<i>No Data Available</i>
pH	11.17
Kinematic viscosity	<i>No Data Available</i>
Solubility	Negligible
Partition coefficient: n-octanol/water (log value)	<i>No Data Available</i>
Vapor pressure	< 1.3 Pa [@ 20 °C]
Density and/or relative density	1 kg/l
Relative vapor density	> 1
Particle size	<i>Not Applicable</i>
Particle size distribution	<i>Not Applicable</i>
Particle shape	<i>Not Applicable</i>
Particle aspect ratio	<i>Not Applicable</i>
Particle specific surface area	<i>Not Applicable</i>

SECTION 10: Stability and reactivity

10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat, flames and/or ignition sources

Heat

10.5. Incompatible materials

Strong oxidizing agents

10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
------------------	------------------

Oxides of nitrogen	Oxidative Degradation
--------------------	-----------------------

Refer to section 5.2 for hazardous decomposition products during combustion.



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SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Immediate Effects:

Inhalation:

No applicable information available.

Skin Contact:

Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.

Eye Contact:

Corrosive (Eye Burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Ingestion:

No applicable information available.

Delayed Effects:

No applicable information is available.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Oral	-	No data available

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Overall product	-	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
Overall product	-	Serious Eye Damage



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Skin Sensitization

Name	Species	Value
Overall product	-	No data available

Respiratory Sensitization

Name	Species	Value
Overall product	-	No data available

Germ Cell Mutagenicity

Name	Route	Value
Overall product	-	No data available

Carcinogenicity

Name	Route	Species	Value
Overall product	-	-	No data available

Reproductive Toxicity

Name	Route	Value	Species	Test Res	Exposure Duration
Overall product	-	No data available	-	-	-

Lactation

Name	Route	Species	Value
Overall product	-	-	No data available

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Res	Exposure Duration
Overall product	-	NONE	No data available	-	-	-

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Res	Exposure Duration
Overall product	-	NONE	No data available	-	-	-

Aspiration Hazard

Name	Value
Overall product	No data available

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information



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The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labeling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Acute aquatic hazard:

GHS Acute 2: Toxic to aquatic life.

Chronic aquatic hazard:

Not chronically toxic to aquatic life by GHS criteria.

No product test data available.

No component test data available.

12.2. Persistence and degradability

No test data available

This product is not, or does not contain, a substance that is a PBT or a vPvB.

12.3. Bioaccumulative potential

No test data available

12.4. Mobility in soil

Please contact manufacturer for more details

12.5 Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

SECTION 14: Transport Information

Ground Transportation (DOT) (Bulk): Not Regulated for Land Transport

Ground Transportation (DOT) (Non-Bulk): Not Regulated for Land Transport



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International Maritime Organization (IMO) (Bulk): Not Regulated for Maritime Transport

International Maritime Organization (IMO) (Non-bulk): Not Regulated for Maritime Transport

Transport via air (IATA) (Bulk): Not Regulated for Air Transport

Transport via air (IATA) (Non-bulk): Not Regulated for Air Transport

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

NFPA Hazard Classification

Health: 3
Flammability: 1
Reactivity: 0

HMIS Hazard Classification

Health: 3
Flammability: 1
Physical Hazards: 0

Complies with the following national/regional chemical inventory requirements:

TSCA

EPCRA Section 302:

This material contains no extremely hazardous substances.

SARA (311/312) Reportable Hazard Categories:

Physical Hazards:

None.

Health Hazards:

Serious eye damage or eye irritation. Skin Corrosion or Irritation.

SARA (313) Toxic Release Inventory:

This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The Following Ingredients are Cited on the Lists Below:

None.

--Regulatory Lists Searched--

1 = ACGIH ALL	4 = OSHA Z	7 = CA P65 REPRO
2 = ACGIH A1	5 = TSCA 12b	8 = TSCA 6
3 = ACGIH A2	6 = CA P65 CARC	9 = CA RTK

SECTION 16: Other information



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Document Group:	342244	Version Number:	1.01
Issue Date:	10/26/18	Supercedes Date:	05/14/18

- Section 1: Initial issue message information was deleted.
- Section 10: Conditions to avoid physical property information was modified.
- Section 14: DOT Transportation - Header information was added.
- Section 14: DOT Transportation - Header information was modified.
- Section 14: IATA Transportation - Header information was added.
- Section 14: IATA Transportation - Header information was modified.
- Section 14: IMO Transportation - Header information was added.
- Section 14: IMO Transportation - Header information was modified.

KMCO believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. No warranty of fitness for any particular purpose, warranty of merchantability, or any other warranty expressed or implied, is made concerning the information provided herein. The information provided herein relates only to the specific product designated and may not be valid where such product is used in combination with any other materials or in any process. Further, since the conditions and methods of use of the product and of the information referred to herein are beyond the control of KMCO, KMCO expressly disclaims any and all liability as to any results obtained or arising from any of the product or reliance on such information.

For additional product information, please contact the KMCO Sales Office at (281) 272-4100

Safety Data Sheet

Lacquer Diluent

SECTION I - IDENTIFICATION

 Ksolv	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtrec :..... (800) 424-9300
--	---

Product Number KS400006
Product Name Lacquer Diluent
Synonyms
CAS Number 68410-97-9
Date Prepared 10/30/2017
Revision Number 10/30/2017
Recommended Use Industrial Use Only

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Flammable Liquids	Category 2
Aspiration Hazard	Category 1
Skin Corrosion/Irritation	Category 3
Serious Eye Damage/Eye Irritation	Category 2A
Acute Toxicity, Inhalation	Category 5
Specific target organ toxicity, single exposure, N	Category 3
Hazardous to the aquatic environment, acute hazard	Category 2
Hazardous to the aquatic environment, long-term hazard	Category 2

DANGER!

GHS LABEL:



Hazard Statements

H225	Highly flammable liquid and vapor
H304	May be fatal if swallowed and enters airways
H316	Causes mild skin irritation
H319	Causes serious eye irritation
H333	May be harmful if inhaled
H336	May cause dizziness or drowsiness
H401	Toxic to aquatic life

Safety Data Sheet

Lacquer Diluent

H411 Toxic to aquatic life with long lasting effects

Precautionary Statements

P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition, sources. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/light.../ equipment, etc.
P242	Use only non-sparking tools.
P243	Take precautionary measures to prevent static discharge.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash... thoroughly after handling.
P271	Use only outdoors or in a well-ventilated are.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+312	IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.
P304+340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
P312	Call a POISON CENTER or a doctor/physician if you feel unwell.
P331	Do NOT induce vomiting.
P332+313	If skin irritation occurs: get medical advice/attention.
P337+313	If eye irritation persists get medical advice/attention.
P370+378	In case of fire: Use(See Section 5 of SDS) to extinguish.
P391	Collect spillage.
P403+233	Store in a well ventilated place. Keep container tightly closed.
P403+235	Store in a well ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container to: local/regional/national/international regulations.

Safety Data Sheet

Lacquer Diluent

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Light Hydrotreated Distillate	68410-97-9	100%	300 ppm	300 ppm

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

Inhalation: Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.

Ingestion: If swallowed. Wash out mouth thoroughly with water and give plenty of water to drink.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Carbon Dioxide, dry-chemical or universal type spray foam.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards: Product is flammable and may be ignited by heat, sparks, flames or other sources of ignition (e.g., static electricity, pilot lights or mechanical/electrical equipment). Vapors are heavier than air and may accumulate in low areas. Vapors may travel considerable distance to a source of ignition where they can ignite, flashback or explode. May create vapor/air explosion hazard indoors, outdoors or in sewers. If container is not properly cooled, it can explode in the heat of a fire.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep all sources of ignition and hot metal surfaces away from spill or release. Evacuate all unprotected personnel from the area.

Environmental Precautions: Contain spill if it can be done with minimal risk. Prevent liquid from entering drains, sewers or waterways. Notify proper authorities.

Methods for Cleaning Up: Use foam on spills to minimize vapors. Using only non-sparking tools and explosion proof equipment, collect spill on absorbent material and put into approved container.

Safety Data Sheet

Lacquer Diluent

SECTION VII - HANDLING AND STORAGE

- Handling and Storage:**
- Obtain special instructions before use. Wear proper personal protective equipment. Use only in well ventilated areas. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks, and open flame.
 - Avoid prolonged breathing of mist or vapor. Wash thoroughly after handling. Vent container carefully before opening. Bond and ground all equipment when transferring from one vessel to another. The use of explosion-proof equipment is recommended. "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld, braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources. Keep containers tightly closed when not in use.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Light Hydrotreated Distillate	68410-97-9	300 ppm	300 ppm

Engineering Controls: Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.

Monitoring: Follow accepted work practices for handling a flammable material. Do not eat, drink or smoke in areas where this chemical is used or stored. Have eye wash stations and safety showers readily available.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Impervious solvent resistant gloves. Impervious apron and work boots recommend where splashing may occur.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Safety Data Sheet

Lacquer Diluent

Appearance	Clear, Colorless Liquid
Odor	Hydrocarbon Odor
pH@25°C	-
Melting/Freezing Point	<-60°C
Flashpoint	>30.2°F (TCC)
Specific Gravity	0.7274
Solubility	Negligible
Auto-Ignition Temperature	-280 to 470c
Decomposition Temperature	-
VOC Content	100%
Odor Threshold	-
Boiling Range	98.889 to 117.22°C
Evaporation Point	Not Available
Flammable Limits - Upper	7.6%
Flammable Limits - Lower	1.4%
Vapor Pressure	Not Available
Vapor Density (Air=1)	-
Viscosity	-

SECTION X - STABILITY AND REACTIVITY

Stability: Risk of Ignition

Conditions to Avoid: Sparks, fire, and extreme temperatures.

Hazardous Decomposition/Byproducts: None known

Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None known.

Incompatibilities: None known

Safety Data Sheet

Lacquer Diluent

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: May be irritating to mucous membranes and respiratory tract
May cause respiratory tract irritation. Inhalation of vapors may cause drowsiness and dizziness.

Eye Contact: Causes eye irritation including stinging, watering and redness which may result in corneal injury.

High vapor concentrations are irritating to the eyes.

Skin Contact: Contact may cause mild skin irritation including redness, burning and drying/cracking of the skin.

Ingestion: Aspiration hazard. Can enter the lungs during swallowing or vomiting and cause chemical pneumonia and edema.

Low degree of toxicity by ingestion.

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Light Hydrotreated Distillate	Not Established	Not Established

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity Not Listed as a Carcinogen

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Information not available.

Mobility: Information not available.

Safety Data Sheet

Lacquer Diluent

Degradability: No data available.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow federal, state, and local regulations. RCRA waste codes of D001 if discarded as uncontaminated liquid.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Petroleum Distillates, N.O.S.

Contains: Petroleum Distillates

Hazard Class and Label: 3

Identification Number: UN 1268

Packaging Group: II

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X	X	X		

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

Safety Data Sheet

Lacquer Diluent

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 1

HMIS Flammability: 3

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

Disclaimer: The information contained herein is based upon data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ksolv, Inc. assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by this material. Such vendees, users, or third parties assume all risks associated with use of this product.

Safety Data Sheet

LPA 210 Solvent

SECTION I - IDENTIFICATION

 Ksolv	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtrec :..... (800) 424-9300
--	---

Product Number 00021
Product Name LPA 210 Solvent
Synonyms Solvent
CAS Number 64742-47-8
Date Prepared 9/24/2010
Revision Number 5/20/2019
Recommended Use Industrial Use Only

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Aspiration Hazard	Category 1
Skin Corrosion/Irritation	Category 2
Specific target organ toxicity, single exposure, N	Category 3
Hazardous to the aquatic environment, long-term hazard	Category 2

DANGER!

GHS LABEL:



Hazard Statements

H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H336	May cause dizziness or drowsiness
H411	Toxic to aquatic life with long lasting effects

Safety Data Sheet

LPA 210 Solvent

Precautionary Statements

P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash... thoroughly after handling.
P271	Use only outdoors or in a well-ventilated are.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302+352	IF ON SKIN: Wash with plenty of water/...
P304+340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER or a doctor/physician if you feel unwell.
P321	Specific treatment (see ... on this label).
P331	Do NOT induce vomiting.
P332+313	If skin irritation occurs: get medical advice/attention.
P362+364	Take off immediately all contaminated clothing and wash it before reuse.
P391	Collect spillage.
P403+233	Store in a well ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Petroleum Distillates, Hydrotreated, Light	64742-47-8	100%	500 ppm	500 ppm

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

Inhalation: Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.

Safety Data Sheet

LPA 210 Solvent

Ingestion: If swallowed. Wash out mouth thoroughly with water and give plenty of water to drink.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Carbon Dioxide, dry-chemical or universal type spray foam.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards: Product is flammable and may be ignited by heat, sparks, flames or other sources of ignition (e.g., static electricity, pilot lights or mechanical/electrical equipment). Vapors are heavier than air and may accumulate in low areas. Vapors may travel considerable distance to a source of ignition where they can ignite, flashback or explode. May create vapor/air explosion hazard indoors, outdoors or in sewers. If container is not properly cooled, it can explode in the heat of a fire.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep all sources of ignition and hot metal surfaces away from spill or release.
Any/all persons dealing with the spill should wear appropriate personal protective equipment. Keep others away from spill/leak. Restrict access to area until the spill has been cleaned up.

Environmental Precautions: Prevent liquid from entering drains, sewers or waterways.
Contain spill if it can be done with minimal risk.
Notify proper authorities.

Methods for Cleaning Up: Use proper personal protective equipment. Isolate and secure the area and follow the appropriate emergency guidelines. If local high concentration of airborne mist occurs, dilute spill with plenty of water and ventilate to disperse mist laden air. Sweep up spill and reclaim or place in a covered waste disposal container. Report spill to proper authorities
Using only non-sparking tools and explosion proof equipment, collect spill on absorbent material and put into approved container.

SECTION VII - HANDLING AND STORAGE

Handling and Storage:

- Store in cool, dry, ventilated area away from any heat source. Storage area should be clearly identified and free of obstruction. Keep containers tightly closed and in an upright position when not in use.
- Bond and ground all equipment when transferring from one vessel to another. The use of explosion-proof equipment is recommended.
- "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld, braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources.

Safety Data Sheet

LPA 210 Solvent

- Keep containers tightly closed in a dry and well-ventilated place.
- Avoid prolonged breathing of mist or vapor. Wash thoroughly after handling.
- NFPA Class III B storage.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Petroleum Distillates, Hydrotreated, Light	64742-47-8	500 ppm	500 ppm

Engineering Controls: Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.

Monitoring: Follow accepted work practices for handling a flammable material.
Do not eat, drink or smoke in areas where this chemical is used or stored.
Have eye wash stations and safety showers readily available.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Wear safety glasses with un-perforated side shields.
Impervious apron and work boots recommend where splashing may occur.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, Colorless to Pale Yellow
Odor	Mild Petroleum Odor
pH@25°C	N/A
Melting/Freezing Point	<-68°F
Flashpoint	229°F (ATSM D93)
Specific Gravity	0.822 ±0.015
Solubility	Negligible
Auto-Ignition Temperature	-
Decomposition Temperature	-
VOC Content	100% (6.8#/gal)
Odor Threshold	-
Boiling Range	464-528°F
Evaporation Point	<1 (Water=1)
Flammable Limits - Upper	7.0%
Flammable Limits - Lower	0.5%
Vapor Pressure	<0.1 mmHg @ 20°C
Vapor Density (Air=1)	6.7 (Air=1)
Viscosity	-

Safety Data Sheet

LPA 210 Solvent

SECTION X - STABILITY AND REACTIVITY

- Stability:** Stable
- Conditions to Avoid:** Extreme heat , flame, sparks and other ignition sources.
- Hazardous Decomposition/Byproducts:** FIRE: Nitrogen oxides, carbon monoxide and carbon dioxide.
HCN in reducing atmospheres.
- Hazardous Polymerization:** Will not occur.
- Polymerization Conditions to Avoid:** None known.
- Incompatibilities:** Strong oxidizing agents

SECTION XI - TOXICOLOGICAL INFORMATION

- Likely Route of Exposure:** Routes of entry: inhalation, skin & eyes, ingestion, skin absorption
- Inhalation:** May cause respiratory tract irritation. Inhalation of vapors may cause drowsiness and dizziness.
- Eye Contact:** Causes eye irritation including stinging, watering and redness which may result in corneal injury.
- Skin Contact:** Contact may cause mild skin irritation including redness, burning and drying/cracking of the skin.
redness, itching or swelling
- Ingestion:** Aspiration hazard. Can enter the lungs during swallowing or vomiting and cause chemical pneumonia and edema.
- Acute Toxicity Value:** See Health Hazards below.
- Chronic (Long Term) Effects:** See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Petroleum Distillates, Hydrotreated, Light	Oral - rat - > 5000 mg/kg - Dermal - rabbit - >2000mg/kg	Inhalation - rat - >5 mg/l / 4 h

Reproductive Effects Not Applicable

Safety Data Sheet

LPA 210 Solvent

Teratogenicity Not Applicable
Mutagenicity Not Applicable
Embryotoxicity Not Applicable
Sensitization to Product Not Applicable
Synergistic Products Not Applicable
Carcinogenicity Not Listed as a Carcinogen

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Information not available.

Mobility: Information not available.

Degradability: No data available.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow Federal, state, and local regulations.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Not Regulated

Contains:

Hazard Class and Label:

Identification Number:

Packaging Group:

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

Safety Data Sheet

LPA 210 Solvent

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 1

HMIS Flammability: 1

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

Disclaimer: The information contained herein is based upon data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ksolv, Inc. assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by this material. Such vendees, users, or third parties assume all risks associated with use of this product.

Safety Data Sheet

Maxpar G2-600

SECTION I - IDENTIFICATION

 Ksolv	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtrec :..... (800) 424-9300
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Product Number KS0159
Product Name Maxpar G2-600
Synonyms MaxPar G2 Base Oils, Lubricant Oils
CAS Number Multiple
Date Prepared 3/16/2017
Revision Number
Recommended Use Process Oil, Base Oil, Carrier, Lubricants

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Not a Hazardous Substance or Mixture

No Hazards

GHS LABEL:

Hazard Statements

NC Not a Hazardous Substance or Mixture

Safety Data Sheet

Maxpar G2-600

Precautionary Statements

NC	Not a Hazardous Substance or Mixture
P102	Keep out of reach of children.
P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition, sources. No smoking.
P243	Take precautionary measures to prevent static discharge.
P270	Do not eat, drink or smoke when using this product.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Light Paraffinic Hydrotreated Distillate	64742-55-8	0 - 100%	5mg/m ³ (Mist)	5mg/m ³ (Mist)
Heavy Paraffinic Hydratreated Distillate	64742-54-7	0 - 100%	5 mg/m ³ (Mist)	5 mg/m ³ (Mist)

SECTION IV - FIRST AID MEASURES

Contact with eyes: Rinse with plenty of water. Get medical attention immediately. Continue to rinse during transport.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration.

Ingestion: Never give anything by mouth to an unconscious person.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards: Product is flammable and may be ignited by heat, sparks, flames or other sources of ignition (e.g., static electricity, pilot lights or mechanical/electrical equipment). Vapors are heavier than air and may accumulate in low areas. Vapors may travel considerable distance to a source of ignition where they can ignite, flashback or explode. May create vapor/air explosion hazard indoors, outdoors or in sewers. If container is not properly cooled, it can explode in the heat of a fire.
Carbon Oxides.

Safety Data Sheet

Maxpar G2-600

SECTION VI - ACCIDENTAL RELEASE MEASURES

- Personal Precautions:** Keep all sources of ignition and hot metal surfaces away from spill or release.
Wear appropriate Personal Protective Equipment recommended in Section 8.
- Environmental Precautions:** Contain spill if it can be done with minimal risk. Prevent liquid from entering drains, sewers or waterways. Notify proper authorities.
- Methods for Cleaning Up:** Use absorbent materials such as sand, earth or vermiculate on land spills. Use absorbent booms or skimming devices on water spills

SECTION VII - HANDLING AND STORAGE

- Handling and Storage:**
- Bond and ground all equipment when transferring from one vessel to another. The use of explosion-proof equipment is recommended.
 - Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from food, drink and incompatible materials (see section 10). Keep container tightly closed and sealed until ready for use. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Light Paraffinic Hydrotreated Distillate	64742-55-8	5mg/m ³ (Mist)	5mg/m ³ (Mist)
Heavy Paraffinic Hydratreated Distillate	64742-54-7	5 mg/m ³ (Mist)	5 mg/m ³ (Mist)

- Engineering Controls:** Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
- Monitoring:** Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking, using the lavatory and at the end of the working period. Remove contaminated clothing and protective equipment before entering eating areas.
- Personal Protective Equipment (PPE)**
- Eye Protection:** Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.
- Skin Protection:** Wear safety glasses with un-perforated side shields.

Safety Data Sheet

Maxpar G2-600

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid, Light yellow to Water White
Odor	No data available None to very mild petroleum
pH@25°C	No data available
Melting/Freezing Point	< 10°F
Flashpoint	>400°F / 204°C
Specific Gravity	0.82
Solubility	Insoluble
Auto-Ignition Temperature	No data available
Decomposition Temperature	No data available
VOC Content	No data available
Odor Threshold	No data available
Boiling Range	No data available
Evaporation Point	No data available
Flammable Limits - Upper	No data available
Flammable Limits - Lower	No data available
Vapor Pressure	<1
Vapor Density (Air=1)	>1
Viscosity	135 – 650 SUS @100°F

SECTION X - STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to Avoid: Extreme heat , flame, sparks and other ignition sources.

Hazardous Decomposition/Byproducts: No data available.

Hazardous Polymerization: No information available.

Polymerization Conditions to Avoid: None known.

Incompatibilities: Strong oxidizing agents

Safety Data Sheet

Maxpar G2-600

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: Breathing spray or mists can be harmful.

Eye Contact: redness, burning, swelling, tearing or pain

Skin Contact: Contact may cause mild skin irritation including redness, burning and drying/cracking of the skin.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Light Paraffinic Hydrotreated Distillate	Not Established	Not Established
Heavy Paraffinic Hydratreated Distillate	Oral - rat - > 5000 mg/kg - Dermal - rabbit - >5000mg/kg	Inhalation - rat - >5 mg/l / 4 h

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity Not a known carcinogen

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: No data available.

Mobility: May partition into air, soil, and water.

Safety Data Sheet

Maxpar G2-600

Degradability: Not readily biodegradable.

BioAccumulation: May bioaccumulate in aquatic organisms.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Any release equal to or exceeding the RQ (if applicable) must be reported to the National Response Center (800-424-8802) and appropriate state and local regulatory agencies as described in 40 CFR 302.6 and 40 CFR 355.40 respectively. Failure to report may result in substantial civil and criminal penalties. State & local regulations may be more restrictive than federal regulations.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Not Dangerous Goods

Contains:

Hazard Class and Label:

Identification Number:

Packaging Group:

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
N/A	N/A	N/A	N/A	N/A

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

Safety Data Sheet

Maxpar G2-600

CALIFORNIA PROPOSITION 65:

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 0

HMIS Flammability: 0

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

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Safety Data Sheet

Maxpure PD 210

SECTION I - IDENTIFICATION

	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtrec :..... (800) 424-9300
---	---

Product Number	KS0156
Product Name	Maxpure PD 210
Synonyms	MaxPure PD Aliphatic Solvents
CAS Number	64742-47-8
Date Prepared	3/15/2017
Revision Number	10/31/2019
Recommended Use	Drilling and Fracking oils

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Flammable Liquids	Category 4
Aspiration Hazard	Category 1
Sensitization, Skin	Category 1
Serious Eye Damage/Eye Irritation	Category 2B

DANGER!

GHS LABEL:



Hazard Statements

H227	Combustible liquid
H304	May be fatal if swallowed and enters airways
H317	May cause an allergic skin reaction
H320	Causes eye irritation

Safety Data Sheet

Maxpure PD 210

Precautionary Statements

P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition, sources. No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash... thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302+352	IF ON SKIN: Wash with plenty of water/...
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
P321	Specific treatment (see ... on this label).
P331	Do NOT induce vomiting.
P333+313	If skin irritation or a rash occurs: Get medical advice/attention.
P337+313	If eye irritation persists get medical advice/attention.
P362+364	Take off immediately all contaminated clothing and wash it before reuse.
P370+378	In case of fire: Use(See Section 5 of SDS) to extinguish.
P403	Store in a well ventilated place.
P405	Store locked up.
P501	Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Petroleum Distillates, Hydrotreated, Light	64742-47-8	100%	500 ppm	500 ppm

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

Inhalation: Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.

Safety Data Sheet

Maxpure PD 210

Ingestion: If swallowed. Wash out mouth thoroughly with water and give plenty of water to drink.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Carbon Dioxide, dry-chemical or universal type spray foam.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards: Isolate from oxidizers, heat, sparks, electric equipment and open flame. Carbon Oxides.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep all sources of ignition and hot metal surfaces away from spill or release.
Any/all persons dealing with the spill should wear appropriate personal protective equipment. Keep others away from spill/leak. Restrict access to area until the spill has been cleaned up.
Avoid breathing vapors, mists or gas.

Environmental Precautions: Contain spill if it can be done with minimal risk. Prevent liquid from entering drains, sewers or waterways. Notify proper authorities.

Methods for Cleaning Up: Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

SECTION VII - HANDLING AND STORAGE

Handling and Storage:

- Keep away from ignition sources. Be cautious of any drips or spills as product is extremely slippery. Do not enter confined spaces without appropriate equipment and procedures. Electrostatic charge may accumulate and create a hazardous condition when handling this material. Bond and ground lines and equipment used during transfer to reduce the possibility of static spark-initiated fire.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Petroleum Distillates, Hydrotreated, Light	64742-47-8	500 ppm	500 ppm

Engineering Controls: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use

Safety Data Sheet

Maxpure PD 210

process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Monitoring: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking, using the lavatory and at the end of the working period. Remove contaminated clothing and protective equipment before entering eating areas.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Wear safety glasses with un-perforated side shields.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid, Pale yellow to water white
Odor	mild Kerosene/Petroleum odor
pH@25°C	No data available
Melting/Freezing Point	No data available
Flashpoint	>160°F / 71°C
Specific Gravity	0.79 -0.82
Solubility	Insoluble
Auto-Ignition Temperature	No data available
Decomposition Temperature	No data available
VOC Content	No data available
Odor Threshold	No data available
Boiling Range	No data available
Evaporation Point	No data available
Flammable Limits - Upper	No data available
Flammable Limits - Lower	No data available
Vapor Pressure	0.4 – 2.0 (mm Hg)
Vapor Density (Air=1)	>1
Viscosity	>30 SUS@100°F

SECTION X - STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to Avoid: Sparks, fire, and extreme temperatures.

Safety Data Sheet

Maxpure PD 210

Hazardous Decomposition/Byproducts: CO, CO₂, and noxious smoke under extreme fire conditions

Hazardous Polymerization: No information available.

Polymerization Conditions to Avoid: None known.

Incompatibilities: Strong acids and oxidizers

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: No data available.

Eye Contact: redness, burning, swelling, tearing or pain

Skin Contact: May cause mild skin irritation, redness, itching and inflammation.

Ingestion: No data available.

Acute Toxicity Value: Eye contact: Burning, swelling or pain

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Petroleum Distillates, Hydrotreated, Light	Oral - rat - > 5000 mg/kg - Dermal - rabbit - >2000mg/kg	Inhalation - rat - >5 mg/l / 4 h

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Safety Data Sheet

Maxpure PD 210

Carcinogenicity Not a known carcinogen

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: No data available.

Mobility: No data available.

Degradability: Readily biodegradable.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Any release equal to or exceeding the RQ (if applicable) must be reported to the National Response Center (800-424-8802) and appropriate state and local regulatory agencies as described in 40 CFR 302.6 and 40 CFR 355.40 respectively. Failure to report may result in substantial civil and criminal penalties. State & local regulations may be more restrictive than federal regulations.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Not Dangerous Goods

Contains:

Hazard Class and Label:

Identification Number:

Packaging Group:

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X	N/A	N/A	N/A	N/A

Safety Data Sheet

Maxpure PD 210

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 1

HMIS Flammability: 1

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

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Safety Data Sheet

MaxSolv® H-250

SECTION I - IDENTIFICATION

	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtec :..... (800) 424-9300
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Product Number	10081
Product Name	MaxSolv® H-250
Synonyms	MaxSol Aliphatic Solvent
CAS Number	64742-46-7
Date Prepared	8/5/2015
Revision Number	8/5/2015
Recommended Use	Industrial Use Only

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Aspiration Hazard

Category 1

DANGER!

GHS LABEL:



Hazard Statements

H304 May be fatal if swallowed and enters airways

Safety Data Sheet

MaxSolv® H-250

Precautionary Statements

P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331	Do NOT induce vomiting.
P405	Store locked up.
P501	Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Distillates (petroleum) hydrotreated middle	64742-46-7	100	5 mg/l	5 mg/l

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

Inhalation: Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.

Ingestion: If swallowed. Wash out mouth thoroughly with water and give plenty of water to drink.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Carbon Dioxide, dry-chemical or universal type spray foam.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards: No unusual fire hazards known.

Safety Data Sheet

MaxSolv® H-250

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep all sources of ignition and hot metal surfaces away from spill or release. Evacuate all unprotected personnel from the area.

Environmental Precautions: Contain spill if it can be done with minimal risk. Prevent liquid from entering drains, sewers or waterways. Notify proper authorities.

Methods for Cleaning Up: Use absorbent materials such as sand, earth or vermiculate on land spills. Use absorbent booms or skimming devices on water spills

SECTION VII - HANDLING AND STORAGE

Handling and Storage:

- "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld, braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources.
- Keep containers tightly closed in a dry and well-ventilated place.
- Avoid prolonged breathing of mist or vapor. Wash thoroughly after handling.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Distillates (petroleum) hydrotreated middle	64742-46-7	5 mg/l	5 mg/l

Engineering Controls: Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.

Monitoring: Do not eat, drink or smoke in areas where this chemical is used or stored. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking, using the lavatory and at the end of the working period. Remove contaminated clothing and protective equipment before entering eating areas.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Impervious solvent resistant gloves. Impervious apron and work boots recommend where splashing may occur.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

Safety Data Sheet

MaxSolv® H-250

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, Pale Straw to Colorless Oil
Odor	Slight Odor
pH@25°C	-
Melting/Freezing Point	not available
Flashpoint	225°F (107°C), COC ASTM 98
Specific Gravity	0.85 7.07 lbs/gal
Solubility	Negligible
Auto-Ignition Temperature	-
Decomposition Temperature	-
VOC Content	78% EPA method 24
Odor Threshold	-
Boiling Range	not available
Evaporation Point	Negligible
Flammable Limits - Upper	Not Established
Flammable Limits - Lower	Not Established
Vapor Pressure	<1mmHg @ 20°C
Vapor Density (Air=1)	>1
Viscosity	40 SUS@100°F

SECTION X - STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: None

Hazardous Decomposition/Byproducts: CO, CO₂, and various hydrocarbons under combustion conditions.

Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None known.

Incompatibilities: Strong acids. Strong bases. Strong oxidizers

Safety Data Sheet

MaxSolv® H-250

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: Not expected to be a hazard for static vapor at ambient temperatures. Inhalation of mist or spray may be harmful and cause pulmonary edema or aspiration pneumonia. Fluid deposits in the lung may lead to fibrosis and reduced pulmonary function.

Eye Contact: redness, burning, swelling, tearing or pain

Skin Contact: Contact may cause mild skin irritation including redness, burning and drying/cracking of the skin.
redness, itching or swelling

Ingestion: Low degree of toxicity by ingestion.

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Distillates (petroleum) hydrotreated middle		

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity Not Listed as a Carcinogen by OSHA or ACGIH

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Information not available.

Mobility: Information not available.

Safety Data Sheet

MaxSolv® H-250

Degradability: Readily biodegradeable.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow Federal ,state, and local regulations. Not a RCRA hazardous waste if uncontaminated.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Not Regulated

Contains:

Hazard Class and Label: 0

Identification Number:

Packaging Group:

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X				

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

Safety Data Sheet

MaxSolv® H-250

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 1

HMIS Flammability: 1

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

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Methyl Acetate

Version Revision Date: SDS Number: Date of last issue: 11/11/2018
2.2 04/02/2019 15000001121 Date of first issue: 09/06/2016
PRD SDSUS / Z8 / 0001

SECTION 1. IDENTIFICATION

Product name : Methyl Acetate
Product code : 09051-00, P0905105, E0905101, P0905106, P0905107,
P0905108, P0905100

Manufacturer or supplier's details

Company name of supplier : K-Solv Chemicals, LLC
Address : 9660 Katy Freeway
Houston, TX 77055
Telephone : (713)468-5768
Emergency telephone : CHEMTREC: +1-800-424-9300, +1-703-527-3887 CCN7321

Recommended use of the chemical and restrictions on use

Recommended use : Solvent
Restrictions on use : None known.

SECTION 2. HAZARDS IDENTIFICATION**GHS classification in accordance with 29 CFR 1910.1200**

Flammable liquids : Category 2
Eye irritation : Category 2A
Specific target organ systemic toxicity - single exposure : Category 1 (Eyes, Central nervous system)
Specific target organ systemic toxicity - single exposure : Category 3 (Respiratory system, Central nervous system)

GHS label elements

Hazard pictograms : 

Signal Word : Danger
Hazard Statements : H225 Highly flammable liquid and vapor.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

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Methyl Acetate

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H336 May cause drowsiness or dizziness.
H370 Causes damage to organs (Eyes, Central nervous system).

Precautionary Statements :

Prevention:

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ eye protection/ face protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P307 + P311 IF exposed: Call a POISON CENTER or doctor/physician.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components

Chemical name	CAS-No.	Concentration (% w/w)
---------------	---------	-----------------------

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Special protective equipment for fire-fighters : Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Wear appropriate personal protective equipment. Local authorities should be advised if significant spillages cannot be contained.

Environmental precautions : Avoid release to the environment.

Methods and materials for containment and cleaning up : Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Keep away from heat and sources of ignition.

Advice on safe handling : Do not get in eyes. Do not taste or swallow. Avoid prolonged or repeated contact with skin. Use only with adequate ventilation. Wash thoroughly after handling.

Conditions for safe storage : Keep container tightly closed and in a well-ventilated place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
methyl acetate	79-20-9	TWA	200 ppm	ACGIH
		STEL	250 ppm	ACGIH
		TWA	200 ppm 610 mg/m ³	NIOSH REL
		ST	250 ppm 760 mg/m ³	NIOSH REL
		TWA	200 ppm 610 mg/m ³	OSHA Z-1
		TWA	200 ppm 610 mg/m ³	OSHA P0
		STEL	250 ppm 760 mg/m ³	OSHA P0

Engineering measures : Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to

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conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal protective equipment

- Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.
- Eye protection : Wear safety glasses with side shields (or goggles).
- Protective measures : Ensure that eye flushing systems and safety showers are located close to the working place.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.
-

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : liquid
- Color : colorless
- Odor : pleasant
- Odor Threshold : 4.6 ppm
- pH : not determined
- Melting point/freezing point : -146 °F / -99 °C
- Boiling point/boiling range : 132.4 - 136.8 °F / 55.8 - 58.2 °C
- Flash point : 9 °F / -13 °C
- Method: Tag closed cup
- Evaporation rate : 5.3
- Self-ignition : 936 °F / 502 °C
Method: method unspecified
- Vapor pressure : 228.3 mbar (68 °F / 20 °C)
- Relative vapor density : 2.6
- Relative density : 0.934 (68 °F / 20 °C)
- Solubility(ies)
-

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Water solubility : partly soluble

Partition coefficient: n-octanol/water : Pow: 1.51
log Pow: 0.18

Autoignition temperature : not determined

Decomposition temperature : Method: DTA
No exotherm

Viscosity

 Viscosity, dynamic : 0.38 mPa.s (68 °F / 20 °C)

 Viscosity, kinematic : 0.406 mm²/s (68 °F / 20 °C)

Explosive properties : No data available

Oxidizing properties : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : None reasonably foreseeable.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : Stable

Conditions to avoid : Heat, flames and sparks.

Incompatible materials : Strong oxidizing agents

Hazardous decomposition products : Carbon dioxide (CO₂)
Carbon monoxide

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : Remarks: No data available

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : Remarks: No data available

Components:

methyl acetate:

Acute oral toxicity : LD50 Oral (Rat): 6,482 mg/kg

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Remarks: (highest dose tested)

Acute inhalation toxicity : LC50 (Rat): > 49 mg/l
Exposure time: 4 h

Acute dermal toxicity : LD50 Dermal (Rabbit): > 2,000 mg/kg
Remarks: (highest dose tested)

Skin corrosion/irritation

Not classified based on available information.

Product:

Remarks : No data available

Components:

methyl acetate:

Species : Rabbit
Exposure time : 24 h
Result : slight

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Remarks : No data available

Components:

methyl acetate:

Species : Rabbit
Result : slight

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Product:

Remarks : No data available

Components:

methyl acetate:

Test Type : Skin Sensitization
Species : Guinea pig
Result : non-sensitizing

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Skin contact : Remarks: None known.

Eye contact : Remarks: Causes serious eye damage.

Ingestion : Remarks: Causes damage to organs.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

methyl acetate:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 320 - 399 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (daphnid): 1,027 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Scenedesmus capricornutum (fresh water algae)): > 120 mg/l
Exposure time: 72 h

Persistence and degradability

Components:

methyl acetate:

Biodegradability : Concentration: 3.6 mg/l
Result: Readily biodegradable.
Biodegradation: 70 %
Exposure time: 28 d

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with local regulations.

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Methyl Acetate

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SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No. : UN 1231
Proper shipping name : Methyl acetate
Class : 3
Packing group : II
Labels : Flammable Liquids
Packing instruction (cargo aircraft) : 364
Packing instruction (passenger aircraft) : 353

IMDG-Code

UN number : UN 1231
Proper shipping name : METHYL ACETATE

Class : 3
Packing group : II
Labels : 3
EmS Code : F-E, S-D
Marine pollutant : no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR

UN/ID/NA number : UN 1231
Proper shipping name : Methyl acetate

Class : 3
Packing group : II
Labels : Class 3 - Flammable Liquid
ERG Code : 129
Marine pollutant : no

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SAFETY DATA SHEET

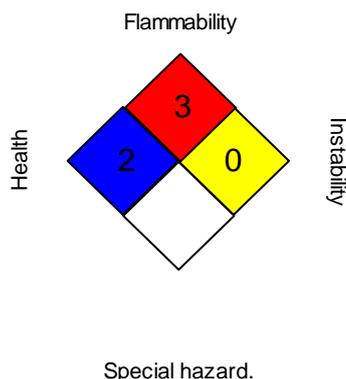
Methyl Acetate

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SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:

HEALTH	/	2
FLAMMABILITY		3
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL : USA. NIOSH Recommended Exposure Limits
OSHA P0 : USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / TWA : 8-hour, time-weighted average
ACGIH / STEL : Short-term exposure limit
NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST : STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
OSHA P0 / TWA : 8-hour time weighted average
OSHA P0 / STEL : Short-term exposure limit
OSHA Z-1 / TWA : 8-hour time weighted average

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECS - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemi-

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icals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 04/02/2019

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

US / Z8

Safety Data Sheet
Methyl Amyl Alcohol

SECTION I - IDENTIFICATION

 Ksolv	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtrec :..... (800) 424-9300
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Product Number KS0034
Product Name Methyl Amyl Alcohol
Synonyms 4-Methyl-2-pentanol
CAS Number 108-11-2
Date Prepared 3/22/2016
Revision Number
Recommended Use Laboratory chemicals, Synthesis of substances

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Flammable Liquids	Category 3
Serious Eye Damage/Eye Irritation	Category 2A
Specific target organ toxicity, single exposure, R	Category 3

WARNING!

GHS LABEL:



Hazard Statements

H226	Flammable liquid and vapor
H319	Causes serious eye irritation
H335	May cause respiratory irritation

Safety Data Sheet

Methyl Amyl Alcohol

Precautionary Statements

- P210 Keep away from heat, hot surfaces, sparks, open flames, and other ignition, sources. No smoking.
- P233 Keep container tightly closed.
- P240 Ground/bond container and receiving equipment.
- P241 Use explosion-proof electrical/ventilating/light.../ equipment, etc.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures to prevent static discharge.
- P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
- P264 Wash... thoroughly after handling.
- P271 Use only outdoors or in a well-ventilated are.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P303+361+353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water or shower.
- P304+340 IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
- P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
- P312 Call a POISON CENTER or a doctor/physician if you feel unwell.
- P337+313 If eye irritation persists get medical advice/attention.
- P370+378 In case of fire: Use(See Section 5 of SDS) to extinguish.
- P403+233 Store in a well ventilated place. Keep container tightly closed.
- P403+235 Store in a well ventilated place. Keep cool.
- P405 Store locked up.
- P501 Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
4-methyl-2-pentanol	108-11-2	100%	100 mg/m3	25 ppm

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Safety Data Sheet

Methyl Amyl Alcohol

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

Inhalation: Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.

Ingestion: If swallowed. Wash out mouth thoroughly with water and give plenty of water to drink.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Carbon Dioxide, dry-chemical or universal type spray foam.

Special Fire Fighting Procedures Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Unusual Fire Fighting Hazards: Water spray may be ineffective on fire, but can protect fire-fighters and cool closed containers.

Hazardous Combustion Products: Carbon Oxides

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Any/all persons dealing with the spill should wear appropriate personal protective equipment. Keep others away from spill/leak. Restrict access to area until the spill has been cleaned up.

Product in liquid and vapor form is extremely flammable.

Wear appropriate Personal Protective Equipment recommended in Section 8.

Environmental Precautions: Contain spill if it can be done with minimal risk. Prevent liquid from entering drains, sewers or waterways. Notify proper authorities.

Methods for Cleaning Up: Sweep or Vacuum up and place in an appropriate closed container.

SECTION VII - HANDLING AND STORAGE

- Handling and Storage:**
- Keep containers tightly closed in a dry and well-ventilated place.
 - Avoid prolonged breathing of mist or vapor. Wash thoroughly after handling.
 - Avoid contact with eyes.
 - Avoid prolonged skin contact with product concentrate and solutions.
 - Keep away from ignition sources. Be cautious of any drips or spills as product is extremely slippery. Do not enter confined spaces without appropriate equipment and procedures. Electrostatic charge may accumulate and create a hazardous condition when handling this material. Bond and ground lines and equipment used during transfer to reduce the possibility of static spark-initiated fire.

Safety Data Sheet
Methyl Amyl Alcohol

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
4-methyl-2-pentanol	108-11-2	100 mg/m ³	25 ppm

Engineering Controls: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Monitoring: Follow accepted work practices for handling a flammable material. Do not eat, drink or smoke in areas where this chemical is used or stored. Have eye wash stations and safety showers readily available. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking, using the lavatory and at the end of the working period. Remove contaminated clothing and protective equipment before entering eating areas.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Impervious solvent resistant gloves. Impervious apron and work boots recommend where splashing may occur.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Safety Data Sheet
Methyl Amyl Alcohol

Appearance	Liquid, colorless
Odor	-
pH@25°C	-
Melting/Freezing Point	-90°C
Flashpoint	41°C
Specific Gravity	0.802
Solubility	soluble
Auto-Ignition Temperature	-
Decomposition Temperature	-
VOC Content	-
Odor Threshold	-
Boiling Range	132°C lit.
Evaporation Point	-
Flammable Limits - Upper	5.5% (V)
Flammable Limits - Lower	1% (V)
Vapor Pressure	4.9 hPa (3.7 mm HG) at 20°C
Vapor Density (Air=1)	4.09
Viscosity	-

SECTION X - STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to Avoid: Sparks, fire, and extreme temperatures.

Hazardous Decomposition/Byproducts: None known

Hazardous Polymerization: No information available.

Polymerization Conditions to Avoid: None known.

Incompatibilities: None known

Safety Data Sheet
Methyl Amyl Alcohol

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: No data available.

Eye Contact: redness, burning, swelling, tearing or pain

Skin Contact: No known significant effects or critical hazards.

Ingestion: Not Available.

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
4-methyl-2-pentanol	Oral - Rat - 2,590 mg/kg, Dermal - Rabbit - 2,870 mg/kg	Not Established

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity Not a known carcinogen

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: No data available.

Mobility: Information not available.

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Methyl Amyl Alcohol

Degradability: Readily biodegradeable.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow Federal, State and local regulations.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Methyl isobutyl carbinol

Contains: 4-Methyl-2-pentanol

Hazard Class and Label: 3

Identification Number: UN2053

Packaging Group: III

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X		X		

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

Safety Data Sheet
Methyl Amyl Alcohol

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 2
HMIS Flammability: 2
HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

Disclaimer: The information contained herein is based upon data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ksolv, Inc. assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by this material. Such vendees, users, or third parties assume all risks associated with use of this product.

Safety Data Sheet

n-Butanol

SECTION I - IDENTIFICATION

 Ksolv	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtrec :..... (800) 424-9300
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Product Number 00068
Product Name n-Butanol
Synonyms Solvent
CAS Number 71-36-3
Date Prepared 4/20/1998
Revision Number 5/20/2019
Recommended Use Industrial Use Only

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Flammable Liquids	Category 3
Acute Toxicity, Oral	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 1
Specific target organ toxicity, single exposure, R	Category 3
Specific target organ toxicity, single exposure, N	Category 3

DANGER!

GHS LABEL:



Hazard Statements

H226	Flammable liquid and vapor
H302	Harmful if swallowed
H315	Causes skin irritation
H318	Causes serious eye damage
H335	May cause respiratory irritation
H336	May cause dizziness or drowsiness

Safety Data Sheet

n-Butanol

Precautionary Statements

P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition, sources. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/light.../ equipment, etc.
P242	Use only non-sparking tools.
P243	Take precautionary measures to prevent static discharge.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash... thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated are.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302+352	IF ON SKIN: Wash with plenty of water/...
P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
P312	Call a POISON CENTER or a doctor/physician if you feel unwell.
P321	Specific treatment (see ... on this label).
P330	Rinse mouth.
P332+313	If skin irritation occurs: get medical advice/attention.
P362+364	Take off immediately all contaminated clothing and wash it before reuse.
P370+378	In case of fire: Use(See Section 5 of SDS) to extinguish.
P403+233	Store in a well ventilated place. Keep container tightly closed.
P403+235	Store in a well ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container to: local/regional/national/international regulations.

Safety Data Sheet

n-Butanol

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
1-Butanol	71-36-3	99.8- 100%	100 ppm	20 ppm

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

Inhalation: Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.

Ingestion: If swallowed. Wash out mouth thoroughly with water and give plenty of water to drink. Give large quantities of water . Never give anything by mouth to an unconscious person.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Carbon Dioxide, dry-chemical or universal type spray foam.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards: Product is flammable and may be ignited by heat, sparks, flames or other sources of ignition (e.g., static electricity, pilot lights or mechanical/electrical equipment). Vapors are heavier than air and may accumulate in low areas. Vapors may travel considerable distance to a source of ignition where they can ignite, flashback or explode. May create vapor/air explosion hazard indoors, outdoors or in sewers. If container is not properly cooled, it can explode in the heat of a fire.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep all sources of ignition and hot metal surfaces away from spill or release.
Any/all persons dealing with the spill should wear appropriate personal protective equipment. Keep others away from spill/leak. Restrict access to area until the spill has been cleaned up.

Environmental Precautions: Prevent liquid from entering drains, sewers or waterways.
Contain spill if it can be done with minimal risk.
Notify proper authorities.

Safety Data Sheet

n-Butanol

Methods for Cleaning Up: Use proper personal protective equipment. Isolate and secure the area and follow the appropriate emergency guidelines. If local high concentration of airborne mist occurs, dilute spill with plenty of water and ventilate to disperse mist laden air. Sweep up spill and reclaim or place in a covered waste disposal container. Report spill to proper authorities

Using only non-sparking tools and explosion proof equipment, collect spill on absorbent material and put into approved container.

SECTION VII - HANDLING AND STORAGE

- Handling and Storage:**
- Obtain special instructions before use. Wear proper personal protective equipment. Use only in well ventilated areas. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks, and open flame.
 - Store in cool, dry, ventilated area away from any heat source. Storage area should be clearly identified and free of obstruction. Keep containers tightly closed and in an upright position when not in use.
 - Bond and ground all equipment when transferring from one vessel to another. The use of explosion-proof equipment is recommended.
 - "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld, braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources.
 - Keep containers tightly closed in a dry and well-ventilated place.
 - Avoid prolonged breathing of mist or vapor. Wash thoroughly after handling.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
1-Butanol	71-36-3	100 ppm	20 ppm

Engineering Controls: Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.

Monitoring: Follow accepted work practices for handling a flammable material. Do not eat, drink or smoke in areas where this chemical is used or stored. Have eye wash stations and safety showers readily available.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Wear safety glasses with un-perforated side shields. Impervious apron and work boots recommend where splashing may occur.

Safety Data Sheet

n-Butanol

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, Colorless Liquid
Odor	Characteristic Alcohol Odor
pH@25°C	-
Melting/Freezing Point	-
Flashpoint	98°F (36°C), TCC
Specific Gravity	0.8 ±0.015
Solubility	7.5% @ 25°C
Auto-Ignition Temperature	-
Decomposition Temperature	-
VOC Content	100% (6.7#/gal)
Odor Threshold	-
Boiling Range	243.9°F
Evaporation Point	0.44 (Butyl Acetate=1)
Flammable Limits - Upper	11.2%
Flammable Limits - Lower	1.4%
Vapor Pressure	4.2 mmHg @ 20°C
Vapor Density (Air=1)	2.6(Air=1)
Viscosity	-

SECTION X - STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: Extreme heat , flame, sparks and other ignition sources.

Hazardous Decomposition/Byproducts: CO, CO2, and noxious smoke under extreme fire conditions

Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None known.

Incompatibilities: Strong acids and oxidizers

Safety Data Sheet

n-Butanol

SECTION XI - TOXICOLOGICAL INFORMATION

- Likely Route of Exposure:** Routes of entry: inhalation, skin & eyes, ingestion, skin absorption
- Inhalation:** May be irritating to mucous membranes and respiratory tract
Low to moderate degree of toxicity by inhalation.
- Eye Contact:** Causes eye irritation including stinging, watering and redness which may result in corneal injury.
- Skin Contact:** Contact may cause mild skin irritation including redness, burning and drying/cracking of the skin.
Repeated or prolonged contact with large amounts of this material may result in absorption through the skin to produce toxic effects.
- Ingestion:** Aspiration hazard. Can enter the lungs during swallowing or vomiting and cause chemical pneumonia and edema.
Moderate to high degree of toxicity by ingestion. May be harmful or fatal if swallowed.
- Acute Toxicity Value:** See Health Hazards below.
- Chronic (Long Term) Effects:** See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
1-Butanol	Oral - Rat - 790 mg/kg; Dermal - Rabbit - 3,400 mg/kg	Inhalation - Rat - 4 h - 8000 ppm

- Reproductive Effects** Not Applicable
- Teratogenicity** Not Applicable
- Mutagenicity** Not Applicable
- Embryotoxicity** Not Applicable
- Sensitization to Product** Not Applicable
- Synergistic Products** Not Applicable
- Carcinogenicity** Not Listed as a Carcinogen

SECTION XII - ECOLOGICAL INFORMATION

- Ecotoxicity:** Information not available.

Safety Data Sheet

n-Butanol

Mobility: Information not available.

Degradability: No data available.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow Federal, state, and local regulations.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Butanols

Contains:

Hazard Class and Label: 3

Identification Number: UN 1120

Packaging Group: III

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X	X	X		

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

Component Name	CAS #	% by wt.
1-Butanol	71-36-3	99.8- 100%

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

Safety Data Sheet

n-Butanol

Component Name	CAS #	% by wt.	RQ (lbs.)
1-Butanol	71-36-3	99.8- 100%	5,000

CALIFORNIA PROPOSITION 65:

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 2

HMIS Flammability: 3

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

Disclaimer: The information contained herein is based upon data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ksolv, Inc. assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by this material. Such vendees, users, or third parties assume all risks associated with use of this product.

Safety Data Sheet

n-Butyl Acetate

SECTION I - IDENTIFICATION

 Ksolv	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtrec :..... (800) 424-9300
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Product Number 00057
Product Name n-Butyl Acetate
Synonyms
CAS Number 123-86-4
Date Prepared 5/29/2015
Revision Number 10/23/2019
Recommended Use Industrial Use Only

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Flammable Liquids	Category 2
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2B
Sensitization, Respiratory	Category 1
Reproductive Toxicity	Category 2

DANGER!

GHS LABEL:



Hazard Statements

H225	Highly flammable liquid and vapor
H315	Causes skin irritation
H320	Causes eye irritation
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H361	Suspected of damaging fertility or the unborn child

Safety Data Sheet

n-Butyl Acetate

Precautionary Statements

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition, sources. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/light.../ equipment, etc.
P242	Use only non-sparking tools.
P243	Take precautionary measures to prevent static discharge.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash... thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.
P302+352	IF ON SKIN: Wash with plenty of water/...
P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
P308+313	IF exposed or concerned: get medical advice/attention.
P321	Specific treatment (see ... on this label).
P332+313	If skin irritation occurs: get medical advice/attention.
P337+313	If eye irritation persists get medical advice/attention.
P342+311	If experiencing respiratory symptoms Call a POISON CENTER or doctor/physician.
P362+364	Take off immediately all contaminated clothing and wash it before reuse.
P370+378	In case of fire: Use(See Section 5 of SDS) to extinguish.
P403+235	Store in a well ventilated place. Keep cool.
p405	Store locked up.
P501	Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

Safety Data Sheet

n-Butyl Acetate

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Butyl Acetate	123-86-4	100	150 ppm	150 ppm

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

Inhalation: Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.

Ingestion: If swallowed. Wash out mouth thoroughly with water and give plenty of water to drink.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Carbon Dioxide, dry-chemical or universal type spray foam.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards: Product is flammable and may be ignited by heat, sparks, flames or other sources of ignition (e.g., static electricity, pilot lights or mechanical/electrical equipment). Vapors are heavier than air and may accumulate in low areas. Vapors may travel considerable distance to a source of ignition where they can ignite, flashback or explode. May create vapor/air explosion hazard indoors, outdoors or in sewers. If container is not properly cooled, it can explode in the heat of a fire.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep all sources of ignition and hot metal surfaces away from spill or release.
Any/all persons dealing with the spill should wear appropriate personal protective equipment. Keep others away from spill/leak. Restrict access to area until the spill has been cleaned up.

Environmental Precautions: Prevent liquid from entering drains, sewers or waterways.
Contain spill if it can be done with minimal risk.
Notify proper authorities.

Safety Data Sheet

n-Butyl Acetate

Methods for Cleaning Up: Use proper personal protective equipment. Isolate and secure the area and follow the appropriate emergency guidelines. If local high concentration of airborne mist occurs, dilute spill with plenty of water and ventilate to disperse mist laden air. Sweep up spill and reclaim or place in a covered waste disposal container. Report spill to proper authorities

Using only non-sparking tools and explosion proof equipment, collect spill on absorbent material and put into approved container.

SECTION VII - HANDLING AND STORAGE

- Handling and Storage:**
- Obtain special instructions before use. Wear proper personal protective equipment. Use only in well ventilated areas. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks, and open flame.
 - Store in cool, dry, ventilated area away from any heat source. Storage area should be clearly identified and free of obstruction. Keep containers tightly closed and in an upright position when not in use.
 - Bond and ground all equipment when transferring from one vessel to another. The use of explosion-proof equipment is recommended.
 - "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld, braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources.
 - Keep containers tightly closed in a dry and well-ventilated place.
 - Avoid prolonged breathing of mist or vapor. Wash thoroughly after handling.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Butyl Acetate	123-86-4	150 ppm	150 ppm

Engineering Controls: Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.

Monitoring: Follow accepted work practices for handling a flammable material. Do not eat, drink or smoke in areas where this chemical is used or stored. Wash hands prior to eating, drinking or using the restroom. Have eye wash stations and safety showers readily available.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Wear safety glasses with un-perforated side shields. Impervious apron and work boots recommend where splashing may occur.

Safety Data Sheet

n-Butyl Acetate

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, Colorless Liquid
Odor	Sweet Acetate Odor, No Residual Odor
pH@25°C	-
Melting/Freezing Point	-
Flashpoint	26°C (78°F), TCC
Specific Gravity	0.8826
Solubility	Negligible
Auto-Ignition Temperature	-
Decomposition Temperature	-
VOC Content	100%
Odor Threshold	-
Boiling Range	258.8°F
Evaporation Point	1
Flammable Limits - Upper	7.6%
Flammable Limits - Lower	1.7%
Vapor Pressure	8 mmHg @ 20°C
Vapor Density (Air=1)	4.0 (Air=1)
Viscosity	-

SECTION X - STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: None

Hazardous Decomposition/Byproducts: FIRE: Nitrogen oxides, carbon monoxide and carbon dioxide.
HCN in reducing atmospheres.

Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None known.

Incompatibilities: Strong Oxidizers and Alkali Metals

Safety Data Sheet

n-Butyl Acetate

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: May be irritating to mucous membranes and respiratory tract
Low to moderate degree of toxicity by inhalation.
May cause respiratory tract irritation. Inhalation of vapors may cause drowsiness and dizziness.

Eye Contact: Causes eye irritation including stinging, watering and redness which may result in corneal injury.

Skin Contact: Contact may cause mild skin irritation including redness, burning and drying/cracking of the skin.
redness, itching or swelling

Ingestion: Aspiration hazard. Can enter the lungs during swallowing or vomiting and cause chemical pneumonia and edema.
Low degree of toxicity by ingestion.

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Butyl Acetate	Oral- Mouse- 6gm/kg; oral-rabbit- 3200 mg/kg; oral-rat-	inhalation- mouse- 6 gm/m ³ /2H; inhalation-rat-390ppm/4H

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity Not Listed as a Carcinogen

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Information not available.

Safety Data Sheet

n-Butyl Acetate

Mobility: Information not available.

Degradability: No data available.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow Federal, state, and local regulations. If uncontaminated product becomes waste, it is regulated under hazardous waste #D001 for flammable characteristics. Reportable quantity is 5000 pounds or about 670 gallons.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Butyl Acetates

Contains:

Hazard Class and Label: 3

Identification Number: UN 1123

Packaging Group: III

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X		X		

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

Component Name	CAS #	% by wt.
Butyl Acetate	123-86-4	100

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

Safety Data Sheet

n-Butyl Acetate

Component Name	CAS #	% by wt.	RQ (lbs.)
ButylAcetate	123-86-4	100	5,000

CALIFORNIA PROPOSITION 65:

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 1

HMIS Flammability: 3

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

Disclaimer: The information contained herein is based upon data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ksolv, Inc. assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by this material. Such vendees, users, or third parties assume all risks associated with use of this product.

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/06/2019

Reviewed on 10/26/2016

1 Identification

Product identifier

Trade name: n-Decane 99%

Article number: 205521

CAS Number: 124-18-5

Details of the supplier of the safety data sheet

Manufacturer/Supplier: Haltermann Carless Deutschland GmbH
Schlengendeich 17
D-21107 Hamburg, Germany
Tel.: +49 40 333 18 0
E-mail: MSDS-HCDE@h-c-s-group.com

Information department: Product Stewardship

Emergency telephone number: CHEMTREC +1 703-741-5970 / +1-800-424-9300

2 Hazard(s) identification

Classification of the substance or mixture

Flam. Liq. 3 H226 Flammable liquid and vapor.
Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.

Label elements

GHS label elements The substance is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms

Signal word

Danger

Hazard-determining components

of labeling: decane

Hazard statements H226 Flammable liquid and vapor.
H304 May be fatal if swallowed and enters airways.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P301+P310 If swallowed: Immediately call a poison center/doctor.
P331 Do NOT induce vomiting.
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system:
NFPA ratings (scale 0 - 4)


Health = 1
Fire = 2
Reactivity = 0

HMIS-ratings (scale 0 - 4)


Health = 1
Fire = 2
Reactivity = 0

Other hazards
Results of PBT and vPvB assessment

PBT: Not applicable.

Safety Data Sheet
acc. to OSHA HCS

Printing date 05/06/2019

Reviewed on 10/26/2016

Trade name: n-Decane 99%

vPvB: Not applicable.

3 Composition/information on ingredients**Chemical characterization: Substances**

CAS No. Description 124-18-5 decane

4 First-aid measures**Description of first aid measures**

General information: Immediately remove any clothing soiled by the product.
After inhalation: Supply fresh air; consult doctor in case of complaints.
After skin contact: Immediately rinse with water.
After eye contact: Rinse opened eye for several minutes under running water.
After swallowing: Do not induce vomiting; immediately call for medical help.
Information for doctor:
Most important symptoms and effects, both acute and delayed No further relevant information available.
Danger Aspiration hazard
Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

Extinguishing media
Suitable extinguishing agents: CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
For safety reasons unsuitable extinguishing agents: Water with full jet
Special hazards arising from the substance or mixture The vapour is heavier than air, spreads along the ground and distant ignition is possible.
Advice for firefighters
Protective equipment: No special measures required.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away.
Environmental precautions: No special measures required.
Methods and material for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Reference to other sections See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

Protective Action Criteria for Chemicals

PAC-1:

: 6.6 ppm

Safety Data Sheet
acc. to OSHA HCS

Printing date 05/06/2019

Reviewed on 10/26/2016

Trade name: n-Decane 99%

Material of gloves	The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. Nitrile rubber, NBR > 0,38 mm
Penetration time of glove material	> 480 min (EN 374)
Eye protection:	Tightly sealed goggles

9 Physical and chemical properties**Information on basic physical and chemical properties****General Information****Appearance:**

Form:	Fluid
Color:	Colorless
Odor:	Mild
Odor threshold:	Not determined.
pH-value:	Not determined.

Change in condition

Melting point/Melting range:	-29.7 °C (-21.5 °F)
Boiling point/Boiling range:	179 °C (354.2 °F)

Flash point: 49 °C (120.2 °F)**Flammability (solid, gaseous):** Not applicable.**Ignition temperature:** 205 °C (401 °F)**Decomposition temperature:** Not determined.**Auto igniting:** Not determined.**Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.**Explosion limits:**

Lower:	0.6 Vol %
Upper:	6.5 Vol %

Vapor pressure: Not determined.**Density at 20 °C (68 °F):** 0.73 g/cm³**Relative density** Not determined.**Vapor density** Not determined.**Evaporation rate** Not determined.**Solubility in / Miscibility with****Water:** Not miscible or difficult to mix.**Partition coefficient (n-octanol/water):** Not determined.**Viscosity:****Dynamic:** Not determined.**Kinematic:** Not determined.**Other information** No further relevant information available.

Safety Data Sheet
acc. to OSHA HCS

Printing date 05/06/2019

Reviewed on 10/26/2016

Trade name: n-Decane 99%

10 Stability and reactivity

Reactivity	No further relevant information available.
Chemical stability	
Thermal decomposition / conditions to be avoided:	No decomposition if used according to specifications.
Possibility of hazardous reactions	No dangerous reactions known.
Conditions to avoid	No further relevant information available.
Incompatible materials:	No further relevant information available.
Hazardous decomposition products:	No dangerous decomposition products known.

11 Toxicological information**Information on toxicological effects****Acute toxicity:****LD/LC50 values that are relevant for classification:**

Inhalative LC50 /4 h 72.3 mg/L (mus)

124-18-5 decane

Oral LD50 >5,000 mg/kg (rat) (OECD 401)

Dermal LD50 >5,000 mg/kg (rabbit) (OECD 402)

Primary irritant effect:**on the skin:** No irritant effect.**on the eye:** No irritating effect.**Sensitization:** No sensitizing effects known.**Additional toxicological information:****Carcinogenic categories****IARC (International Agency for Research on Cancer)**

Substance is not listed.

NTP (National Toxicology Program)

Substance is not listed.

OSHA-Ca (Occupational Safety & Health Administration)

Substance is not listed.

12 Ecological information**Toxicity****Aquatic toxicity:** No further relevant information available.**Persistence and degradability** No further relevant information available.**Behavior in environmental systems:****Bioaccumulative potential** No further relevant information available.**Mobility in soil** No further relevant information available.**Additional ecological information:****General notes:** Water hazard class 1 (Assessment by list): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/06/2019

Reviewed on 10/26/2016

Trade name: n-Decane 99%

Results of PBT and vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.
Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods

Recommendation: Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

*14 Transport information

UN-Number
DOT, ADR, IMDG, IATA UN2247
UN proper shipping name
DOT n-Decane
ADR 2247 n-DECANE, ENVIRONMENTALLY HAZARDOUS
IMDG, IATA n-DECANE
Transport hazard class(es)

DOT



Class 3 Flammable liquids
Label 3

ADR



Class 3 (F1) Flammable liquids
Label 3

IMDG, IATA



Class 3 Flammable liquids
Label 3

Packing group

DOT, ADR, IMDG, IATA III

Environmental hazards:

Marine pollutant: No

Special precautions for user Warning: Flammable liquids

Danger code (Kemler): 30

Safety Data Sheet
acc. to OSHA HCS

Printing date 05/06/2019

Reviewed on 10/26/2016

Trade name: n-Decane 99%

EMS Number: F-E,S-E
Stowage Category A
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

Transport/Additional information:

DOT
Quantity limitations On passenger aircraft/rail: 60 L
On cargo aircraft only: 220 L

ADR

Excepted quantities (EQ) Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

IMDG

Limited quantities (LQ) 5L
Excepted quantities (EQ) Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

UN "Model Regulation":

UN 2247 N-DECANE, 3, III, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information*Safety, health and environmental regulations/legislation specific for the substance or mixture****Sara****Section 355 (extremely hazardous substances):**

Substance is not listed.

Section 313 (Specific toxic chemical listings):

Substance is not listed.

TSCA (Toxic Substances Control Act):

: ACTIVE

Hazardous Air Pollutants

Substance is not listed.

Proposition 65**Chemicals known to cause cancer:**

Substance is not listed.

Chemicals known to cause reproductive toxicity for females:

Substance is not listed.

Chemicals known to cause reproductive toxicity for males:

Substance is not listed.

Chemicals known to cause developmental toxicity:

Substance is not listed.

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/06/2019

Reviewed on 10/26/2016

Trade name: n-Decane 99%**Cancerogenity categories****EPA (Environmental Protection Agency)**

Substance is not listed.

TLV (Threshold Limit Value established by ACGIH)

Substance is not listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)

Substance is not listed.

Chemical safety assessment: A Chemical Safety Assessment has been carried out.**16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Date of preparation / last**revision**

05/06/2019 / 11

Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Flam. Liq. 3: Flammable liquids – Category 3
Asp. Tox. 1: Aspiration hazard – Category 1

* Data compared to the previous version altered.



Safety Data Sheet dated 6/17/2019, Provisional
Printing date: 6/24/2019

1. IDENTIFICATION

Product identifier

Mixture identification:

Identification of the substance:

Trade name: NE 170

MSDS code: MD0682

Chemical description: Product based on polymer in glycol ether blend.

Recommended use of the chemical and restrictions on use

Recommended use:

Industrial uses.

Restrictions on use:

Not known

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Supplier:

Lamberti USA Inc.

Highway 59 at County Road 212 - P.O. Box 1000 - 77448 Hungerford, TX - U.S.A.

Phone: +1 281 342 5675 Fax: +1 979 532 3749

Competent person responsible for the safety data sheet:

msds@lamberti.com

Emergency phone number

CHEMTREC - Phone: +1 800 424 9300

2. HAZARD(S) IDENTIFICATION

Classification of the chemical

Following GHS and within the meaning of 29 CFR 1910.1200 (OSHA)

Warning, Flam. Liq. 4, Combustible liquid.

Label elements

Hazard pictograms:

None

Warning

Hazard statements:

H227 Combustible liquid.

Precautionary statements:

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P370+P378 In case of fire: Use Water mist, Carbon dioxide (CO₂), Foam, Chemical Powders to extinguish.

P403+P235 Store in a well-ventilated place. Keep cool.

P501 Dispose of contents/container in accordance with applicable regulations.

Special Provisions:

None

Ingredient(s) with unknown acute toxicity:

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

N.A.

Mixtures

Hazardous components within the meaning of 29 CFR 1910.1200 and related classification:



>= 45% - < 65% Propanol, 1(or 2)-(2-methoxymethylethoxy)-; Dipropylene glycol methyl ether
Index number: Not available, CAS: 34590-94-8, EC: 252-104-2
B.6/4 Flam. Liq. 4 H227

4. FIRST-AID MEASURES

Description of necessary measures

In case of skin contact:

Wash with plenty of water and soap.

In case of eyes contact:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

In case of Ingestion:

Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

Most important symptoms/effects, acute and delayed

None

Indication of immediate medical attention and special treatment needed

Treatment:

None

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:

In case of fire: Use Water mist, Carbon dioxide (CO₂), Foam, Chemical Powders to extinguish.

Unsuitable extinguishing media:

Do not use water-jets directly on the product.

Specific hazards arising from the chemical

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

Hazardous combustion products:

None

Explosive properties: N.D.

Oxidizing properties: N.D.

Special protective equipment and precautions for fire-fighters

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures

Wear personal protection equipment.

Remove all sources of ignition.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Provide adequate ventilation.

Remove persons to safety.

Use appropriate respiratory protection.

See protective measures under point 7 and 8.

Methods and materials for containment and cleaning up

Wash with plenty of water.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Do not use on extensive surface areas in premises where there are occupants.

Do not use empty container before they have been cleaned.



Before making transfer operations, assure that there are not any incompatible material residuals in the containers.

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

Conditions for safe storage, including any incompatibilities

Always keep in a well ventilated place.

Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.

Keep away from food, drink and feed.

Incompatible materials:

None.

Instructions as regards storage premises:

Cool and adequately ventilated.

Storage temperature:

Store at ambient temperature.

Packaging suggested:

Plastic drums.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Propanol, 1(or 2)-(2-methoxymethylethoxy)-; Dipropylene glycol methyl ether

US - ACGIH (TLV) - LTE(8h): 100 ppm - STEL(15 min.): 150 ppm - Notes: Skin.

Appropriate engineering controls:

None

Individual protection measures

Eye protection:

Use close fitting safety glasses (ANSI Z87.1 or approved equivalent); don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin. Select approved equipment and suitable material

Protection for hands:

Chemical-resistant protective gloves. When prolonged or frequently repeated contact may occur, a glove is recommended to prevent contact.

Respiratory protection:

Use respiratory protection where ventilation is insufficient or exposure is prolonged, select NIOSH/MSHA approved equipment.

Thermal Hazards:

None

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and colour: Liquid, orange

Odour: Mild

Odour threshold: N.D.

pH: 5.7 - 6.7 (70/5/25: IPA/Product/Water)

Melting point / freezing point: N.D.

Initial boiling point and boiling range: >100C (>212F)

Solid/gas flammability: N.D.

Upper/lower flammability or explosive limits: N.D.

Vapour density: N.D.

Flash point: approx. 78C (172F)

Evaporation rate: N.D.

Vapour pressure: N.D.

Relative density: 0.94 - 1.04

Solubility in water: Insoluble

Solubility in oil: N.D.

Partition coefficient (n-octanol/water): N.D.

Auto-ignition temperature: N.D.



Decomposition temperature: N.D.
Viscosity: N.D.
Miscibility: N.D.
Fat Solubility: N.D.
Conductivity: N.D.
Substance Groups relevant properties N.D.

10. STABILITY AND REACTIVITY

Reactivity

Stable under normal conditions

Chemical stability

Stable under normal conditions

Possibility of hazardous reactions

Stable under normal conditions

Conditions to avoid

Stable under normal conditions.

Incompatible materials

Avoid contact with combustible materials. The product could catch fire.

Strong oxidizers

Hazardous decomposition products

Not known.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Toxicological information of the mixture:

a) acute toxicity:

Toxicity Oral Rat LD50 >2000 mg/kg - source: Calculated data.

b) skin corrosion/irritation:

Irritation Skin : Repeated and prolonged contacts may cause slight irritation.

c) serious eye damage/irritation:

Irritation Eye : Repeated and prolonged contacts may cause slight irritation.

Toxicological information of the main substances found in the mixture:

N.D.

Substance(s) listed on the NTP report on Carcinogens:

None.

Substance(s) listed on the IARC Monographs:

None.

Substance(s) listed as OSHA Carcinogen(s):

None.

Substance(s) listed as NIOSH Carcinogen(s):

None.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecological information of the mixture:

a) Aquatic acute toxicity:

Data not available.

Persistence and degradability

Ecological information of the mixture:

Biodegradability: Data not available.

Bioaccumulative potential

Ecological information of the mixture:

Bioaccumulation: Data not available

Ecological information of the main substances found in the mixture:

Mobility in soil

Ecological information of the mixture:

Mobility in soil: Data not available



Other adverse effects

None

Use according to criteria of good industrial practice, avoiding product dispersion in the environment.

13. DISPOSAL CONSIDERATIONS

Waste treatment and disposal methods

If possible recover the product, otherwise dispose of in authorized landfill or incineration in accordance with local regulation.

14. TRANSPORT INFORMATION

14.1. UN number

N.A.

14.2. UN proper shipping name

Proper Shipping Name: N.A.

14.3. Transport hazard class(es)

US DOT (non-bulk): Not Regulated

US DOT (bulk > 119 gallons): NA1993, Combustible liquid, n.o.s., (Dipropylene glycol methyl ether), PG-III

Road (ADR): Not Regulated

Air (ICAO/IATA): Not Regulated

Sea (IMO/IMDG): Not Regulated

14.4. Packing group

ADR-Packing Group: N.A.

IATA-Packing group: N.A.

IMDG-Packing group: N.A.

14.5. Environmental hazards

N.A.

14.6. Special precautions for user

N.A.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

N.A.

15. REGULATORY INFORMATION

USA - Federal regulations

TSCA - Toxic Substances Control Act

TSCA inventory: all the components are listed on the TSCA inventory.

TSCA listed substances:

Propanol, 1(or 2)-(2-methoxymethylethoxy)-; Dipropylene glycol methyl ether is listed in TSCA Section 8b, Section 8a - PAIR, Section 8d HSDR.

SARA - Superfund Amendments and Reauthorization Act

Section 302 - Extremely Hazardous Substances: no substances listed.

Section 304 - Hazardous substances: no substances listed.

Section 313 - Toxic chemical list: no substances listed.

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act

No substances listed.

CAA - Clean Air Act

CAA listed substances:

None.

CWA - Clean Water Act

CWA listed substances:

None.

USA - State specific regulations

California Proposition 65

Substance(s) listed under California Proposition 65:

None.

Massachusetts Right to know



Substance(s) listed under Massachusetts Right to know:
Propanol, 1(or 2)-(2-methoxymethylethoxy)-; Dipropylene glycol methyl ether
New Jersey Right to know
Substance(s) listed under New Jersey Right to know:
Propanol, 1(or 2)-(2-methoxymethylethoxy)-; Dipropylene glycol methyl ether
Pennsylvania Right to know
Substance(s) listed under Pennsylvania Right to know:
Propanol, 1(or 2)-(2-methoxymethylethoxy)-; Dipropylene glycol methyl ether

Regulatory information USA:

HMIS INFORMATION		HAZARD INDEX:	4 = SEVERE
HEALTH	1		3 = SERIOUS
FLAMMABILITY	2		2 = MODERATE
REACTIVITY	1		1 = SLIGHT
PERSONAL PROT.	D		0 = MINIMAL

D: Face shield, gloves, chemical apron

*: Chronic effects - See Section 11.

Sara Title III Section 311/312:

Immediate (acute) health effects. / Fire hazard.

State regulations:

Canadian Regulations: All the ingredients as such or as chemical group are registered in DSL.

Canadian WHMIS:

B3 Combustible Liquid

D2B (toxic material)

16. OTHER INFORMATION

N.A.:Not Applicable

N.D.:No Data available

Full text of phrases referred to in Section 3:

H227 Combustible liquid.

Disclaimer:

The product must be stored, handled and used according to criteria of good industrial practice and to regulations in force. This leaflet is offered for your consideration and guidance only. This leaflet complements the Technical Data Sheet but does not replace it. The information herein contained is given to the best of our knowledge at the time of issue.

Due to the several ways in which the product may be used and the possible interaction with variables not depending on or unknown to the supplier, we also cannot accept any liability whatsoever for any loss or damage however arising from the handling and use of our products.

N.A.=Not

Applicable

N.D.=No Data

available

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

CAS: Chemical Abstracts Service (division of the American Chemical Society).

CLP: Classification, Labeling, Packaging.

DNEL: Derived No Effect Level.

EINECS: European Inventory of Existing Commercial Chemical Substances.

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

HMIS: Hazardous Materials Identification System

IARC: International Agency for Research on Cancer

IATA: International Air Transport Association.



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IATA-DGR:	Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Code for Dangerous Goods.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
LTE:	Long-term exposure.
NFPA:	National Fire Protection Association
NIOSH:	National Institute for Occupational Safety and Health
NTP:	National Toxicology Program
OSHA:	Occupational Safety and Health Administration
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STE:	Short-term exposure.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWATLV:	Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).

Safety Data Sheet
N Methyl Pyrrolidone

SECTION I - IDENTIFICATION

	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtrec :..... (800) 424-9300
---	---

Product Number	100112
Product Name	N Methyl Pyrrolidone
Synonyms	NMP, N-Methyl-2-Pyrrolidinone, 2-Pyrrolidone, 1-methyl-
CAS Number	872-50-4
Date Prepared	7/10/2015
Revision Number	2/1/2019
Recommended Use	Industrial Use Only

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Flammable Liquids	Category 4
Serious Eye Damage/Eye Irritation	Category 2A
Specific target organ toxicity, single exposure, N	Category 3
Reproductive Toxicity	Category 1A, 1B

DANGER!

GHS LABEL:



Hazard Statements

H227	Combustible liquid
H319	Causes serious eye irritation
H336	May cause dizziness or drowsiness
H360	May damage fertility or the unborn child

Safety Data Sheet

N Methyl Pyrrolidone

Precautionary Statements

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition, sources. No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash... thoroughly after handling.
P271	Use only outdoors or in a well-ventilated are.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P304+340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
P308+313	IF exposed or concerned: get medical advice/attention.
P312	Call a POISON CENTER or a doctor/physician if you feel unwell.
P337+313	If eye irritation persists get medical advice/attention.
P370+378	In case of fire: Use(See Section 5 of SDS) to extinguish.
P403	Store in a well ventilated place.
P403+233	Store in a well ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
N-Methyl-2-Pyrrolidinone	872-50-4	100	Not Established (Recommend 100ppm TWA)	Not Established (Recommend 100 ppm TWA)

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

Safety Data Sheet
N Methyl Pyrrolidone

Inhalation: Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.

Ingestion: If swallowed. Wash out mouth thoroughly with water and give plenty of water to drink. Aspiration hazard.
Give large quantities of water . Never give anything by mouth to an unconscious person.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Carbon Dioxide, dry-chemical or universal type spray foam.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards: No unusual fire hazards known.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep all sources of ignition and hot metal surfaces away from spill or release. Evacuate all unprotected personnel from the area.

Environmental Precautions: Contain spill if it can be done with minimal risk. Prevent liquid from entering drains, sewers or waterways. Notify proper authorities.

Methods for Cleaning Up: Use foam on spills to minimize vapors. Using only non-sparking tools and explosion proof equipment, collect spill on absorbent material and put into approved container.

SECTION VII - HANDLING AND STORAGE

Handling and Storage:

- Keep containers tightly closed in a dry and well-ventilated place.
- Aluminum equipment should not be used in the storage and/or transfer. Contact with aluminum parts in a pressurizable fluid system may cause violent reactions.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
N-Methyl-2-Pyrrolidinone	872-50-4	shed (Recommend 100	shed (Recommend 100

Engineering Controls: Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.

Safety Data Sheet
N Methyl Pyrrolidone

Monitoring: Follow accepted work and hygiene practices for handling combustible product.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Impervious solvent resistant gloves. Impervious apron and work boots recommend where splashing may occur.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, colorless liquid
Odor	amine-like
pH@25°C	not available
Melting/Freezing Point	-11.6°F, -24.2°C
Flashpoint	196°F, 91°C
Specific Gravity	1.03
Solubility	completely miscible. Hygroscopic!
Auto-Ignition Temperature	473 °F, 245 °C
Decomposition Temperature	not determined
VOC Content	
Odor Threshold	not available
Boiling Range	399 °F, 204°C
Evaporation Point	not available
Flammable Limits - Upper	9.5 vol%
Flammable Limits - Lower	1.3 vol%
Vapor Pressure	0.32hPa - 68 °F, (0.24 mm Hg - 20°C)
Vapor Density (Air=1)	3.4
Viscosity	1.661 mPa.s

SECTION X - STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to Avoid: Sparks, fire, and extreme temperatures.
Oxidizing agents
Prolonged exposure to humid atmosphere

Hazardous Decomposition/Byproducts: Oxides of carbon and nitrogen under incomplete combustion conditions.

Hazardous Polymerization: Will not occur.

Safety Data Sheet

N Methyl Pyrrolidone

Polymerization Conditions to Avoid: None known.

Incompatibilities: Strong acids and oxidizers

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: Not expected to be a hazard for static vapor at ambient temperatures. Inhalation of mist or spray may be harmful and cause pulmonary edema or aspiration pneumonia. Fluid deposits in the lung may lead to fibrosis and reduced pulmonary function.

Eye Contact: Causes eye irritation including stinging, watering and redness which may result in corneal injury.

Skin Contact: Repeated contact can lead to skin sensitization.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
N-Methyl-2-Pyrrolidinone	Oral - Rat - 3,914 mg/kg; Dermal - Rabbit - 8,000 mg/kg	Inhalation - Rat - 4 h - > 5100 ppm

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity Not Classified

Safety Data Sheet
N Methyl Pyrrolidone

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Information not available.

Mobility: Information not available.

Degradability: No data available.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow all regulations, local, state and federal.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Combustible Liquid, N.O.S.

Contains: N-methyl-2-pyrrolidone

Hazard Class and Label: 3

Identification Number: NA 1993

Packaging Group: III

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X		X		

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

Safety Data Sheet
N Methyl Pyrrolidone

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

SECTION XVI - OTHER INFORMATION

HMIS Health: 2

HMIS Flammability: 2

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet:

Email address:

Training necessary:

Disclaimer:

Safety Data Sheet
NP-9

SECTION I - IDENTIFICATION

 Ksolv	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtrec :..... (800) 424-9300
--	---

Product Number KS0205
Product Name NP-9
Synonyms Ethoxylated Nonylphenol
CAS Number 68412-54-4
Date Prepared 8/9/2017
Revision Number
Recommended Use Industrial Use Only

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Acute Toxicity, Oral	Category 4
Serious Eye Damage/Eye Irritation	Category 1
Acute Toxicity, Inhalation	Category 4
Hazardous to the aquatic environment, acute hazard	Category 2
Hazardous to the aquatic environment, long-term hazard	Category 2

DANGER!

GHS LABEL:



Hazard Statements

H302	Harmful if swallowed
H318	Causes serious eye damage
H332	Harmful if inhaled
H401	Toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects

Safety Data Sheet

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Precautionary Statements

P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash... thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated are.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
p304+340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
P312	Call a POISON CENTER or a doctor/physician if you feel unwell.
P330	Rinse mouth.
P391	Collect spillage.
P501	Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Ethoxylated Nonylphenol, Branched	68412-54-4	99-100%		

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

Inhalation: Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.

Ingestion: If swallowed. Wash out mouth thoroughly with water and give plenty of water to drink.
If swallowed. Wash out mouth thoroughly with water and give plenty of water to drink.

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SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Carbon Dioxide, dry-chemical or universal type spray foam.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards: No unusual fire hazards known.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Any/all persons dealing with the spill should wear appropriate personal protective equipment. Keep others away from spill/leak. Restrict access to area until the spill has been cleaned up.

Environmental Precautions: Contain spill if it can be done with minimal risk. Prevent liquid from entering drains, sewers or waterways. Notify proper authorities.

Methods for Cleaning Up: Use absorbent materials such as sand, earth or vermiculate on land spills. Use absorbent booms or skimming devices on water spills

SECTION VII - HANDLING AND STORAGE

Handling and Storage:

- Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from food, drink and incompatible materials (see section 10). Keep container tightly closed and sealed until ready for use. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Ethoxylated Nonylphenol, Branched	68412-54-4		

Engineering Controls: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Monitoring: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking, using the lavatory and at the end of the working period. Remove contaminated clothing and protective equipment before entering eating areas.

Personal Protective Equipment (PPE)

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Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Impervious apron and work boots recommend where splashing may occur.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Pale/colorless Liquid
Odor	Aromatic
pH@25°C	6.0-8.0 (5% (m/v))
Melting/Freezing Point	38.8°F
Flashpoint	>200°F, COC
Specific Gravity	1.06
Solubility	complete
Auto-Ignition Temperature	-
Decomposition Temperature	Not Determined
VOC Content	Not Determined
Odor Threshold	-
Boiling Range	>392°F
Evaporation Point	Not Determined
Flammable Limits - Upper	Not Determined
Flammable Limits - Lower	Not Determined
Vapor Pressure	<0.01 mmHg @ 20°C
Vapor Density (Air=1)	>1 (Air=1)
Viscosity	238 cSt @ 68 °F.

SECTION X - STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: None

Hazardous Decomposition/Byproducts: CO and CO₂ and unidentified organic compounds may form during combustion.

Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None known.

Incompatibilities: None known

Safety Data Sheet

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SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: May be irritating to mucous membranes and respiratory tract
Low to moderate degree of toxicity by inhalation.

Eye Contact: Causes eye irritation including stinging, watering and redness which may result in corneal injury.

Skin Contact: Contact may cause mild skin irritation including redness, burning and drying/cracking of the skin.
redness, itching or swelling

Ingestion: Aspiration hazard. Can enter the lungs during swallowing or vomiting and cause chemical pneumonia and edema.
Low degree of toxicity by ingestion.

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Ethoxylated Nonylphenol, Branched		

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity Not Listed as a Carcinogen

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Information not available.

Mobility: Information not available.

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Degradability: No data available.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow federal, state, and local regulations. Not a RCRA hazardous waste if uncontaminated.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Contains: Nonylphenol polyethylene glycol ether

Hazard Class and Label: 9

Identification Number: UN 3082

Packaging Group: III

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X				

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

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No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 2

HMIS Flammability: 1

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

Disclaimer: The information contained herein is based upon data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ksolv, Inc. assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by this material. Such vendees, users, or third parties assume all risks associated with use of this product.

Safety Data Sheet

Surfactant NP-10

SECTION I - IDENTIFICATION



Solvay USA
312 N Oaks St.
Roanoke, TX 76262

.....

Product Number BU2331-00
Product Name Surfactant NP-10
Synonyms nonyl phenol ethoxylate
CAS Number Multiple
Date Prepared 8/28/2015
Revision Number 8/28/2015
Recommended Use Industrial Use Only

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Acute Toxicity, Oral	Category 4
Serious Eye Damage/Eye Irritation	Category 1
Acute Toxicity, Inhalation	Category 4
Hazardous to the aquatic environment, acute hazard	Category 2
Hazardous to the aquatic environment, long-term hazard	Category 2

DANGER!

GHS LABEL:



Hazard Statements

H302	Harmful if swallowed
H318	Causes serious eye damage
H332	Harmful if inhaled
H401	Toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects

Safety Data Sheet

Surfactant NP-10

Precautionary Statements

P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash... thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated are.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
p304+340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
P312	Call a POISON CENTER or a doctor/physician if you feel unwell.
P330	Rinse mouth.
P391	Collect spillage.
P501	Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Polyethylene Glycol	25322-68-3		> 0.1%	> 0.1%
Nonylphenol polyethylene glycol ether	127087-87-0		not available	not available

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

Inhalation: Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.

Ingestion: If swallowed. Wash out mouth thoroughly with water and give plenty of water to drink.
If swallowed. Wash out mouth thoroughly with water and give plenty of water to drink.

Safety Data Sheet

Surfactant NP-10

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Carbon Dioxide, dry-chemical or universal type spray foam.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards: No unusual fire hazards known.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Any/all persons dealing with the spill should wear appropriate personal protective equipment. Keep others away from spill/leak. Restrict access to area until the spill has been cleaned up.

Environmental Precautions: Contain spill if it can be done with minimal risk. Prevent liquid from entering drains, sewers or waterways. Notify proper authorities.

Methods for Cleaning Up: Use absorbent materials such as sand, earth or vermiculate on land spills. Use absorbent booms or skimming devices on water spills

SECTION VII - HANDLING AND STORAGE

Handling and Storage:

- Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from food, drink and incompatible materials (see section 10). Keep container tightly closed and sealed until ready for use. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Polyethylene Glycol	25322-68-3	> 0.1%	> 0.1%
Nonylphenol polyethylene glycol ether	127087-87-0	not available	not available

Engineering Controls: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Monitoring: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking, using the lavatory and at the end of the working period. Remove contaminated clothing and protective equipment before entering eating areas.

Personal Protective Equipment (PPE)

Safety Data Sheet

Surfactant NP-10

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Impervious apron and work boots recommend where splashing may occur.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Pale Liquid
Odor	Slight Odor
pH@25°C	5-8@10 g/l (aqueous)
Melting/Freezing Point	38.8°F
Flashpoint	477°F, COC
Specific Gravity	1.06
Solubility	complete
Auto-Ignition Temperature	-
Decomposition Temperature	not available
VOC Content	Not Determined
Odor Threshold	-
Boiling Range	>482°F
Evaporation Point	Not Determined
Flammable Limits - Upper	Not Determined
Flammable Limits - Lower	Not Determined
Vapor Pressure	<0.01 mmHg @ 20°C
Vapor Density (Air=1)	>1 (Air=1)
Viscosity	238 cSt @ 68 °F.

SECTION X - STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: None

Hazardous Decomposition/Byproducts: CO and CO₂ and unidentified organic compounds may form during combustion.

Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None known.

Incompatibilities: None known

Safety Data Sheet

Surfactant NP-10

SECTION XI - TOXICOLOGICAL INFORMATION

- Likely Route of Exposure:** Routes of entry: inhalation, skin & eyes, ingestion, skin absorption
- Inhalation:** May be irritating to mucous membranes and respiratory tract
Low to moderate degree of toxicity by inhalation.
- Eye Contact:** Causes eye irritation including stinging, watering and redness which may result in corneal injury.
- Skin Contact:** Contact may cause mild skin irritation including redness, burning and drying/cracking of the skin.
redness, itching or swelling
- Ingestion:** Aspiration hazard. Can enter the lungs during swallowing or vomiting and cause chemical pneumonia and edema.
Low degree of toxicity by ingestion.
- Acute Toxicity Value:** See Health Hazards below.
- Chronic (Long Term) Effects:** See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Polyethylene Glycol	not available	not available
Nonylphenol polyethylene glycol ether	(Rabbit - male, female): Dermal >3000 mg/kg / Oral 3314 mg/kg	not available

- Reproductive Effects** Not Applicable
- Teratogenicity** Not Applicable
- Mutagenicity** Not Applicable
- Embryotoxicity** Not Applicable
- Sensitization to Product** Not Applicable
- Synergistic Products** Not Applicable
- Carcinogenicity** Not Listed as a Carcinogen

SECTION XII - ECOLOGICAL INFORMATION

- Ecotoxicity:** Information not available.

Safety Data Sheet

Surfactant NP-10

Mobility: Information not available.

Degradability: No data available.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow federal, state, and local regulations. Not a RCRA hazardous waste if uncontaminated.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Environmentally hazardous substance, liquid, N.O.S.

Contains: nonyl phenol ethoxylate

Hazard Class and Label: 9

Identification Number: UN 3082

Packaging Group: III

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X				

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

Safety Data Sheet

Surfactant NP-10

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 2

HMIS Flammability: 1

HMIS Reactivity: 0

Additional:

Safety Data Sheet

n-Propanol

SECTION I - IDENTIFICATION

	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtrec :..... (800) 424-9300
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Product Number 00064
Product Name n-Propanol
Synonyms Solvent
CAS Number 71-23-8
Date Prepared 12/27/1997
Revision Number 5/20/2019
Recommended Use Industrial Use Only

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Flammable Liquids	Category 2
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2B
Specific target organ toxicity, single exposure, R	Category 3
Specific target organ toxicity, single exposure, N	Category 3

DANGER!

GHS LABEL:



Hazard Statements

H225	Highly flammable liquid and vapor
H315	Causes skin irritation
H320	Causes eye irritation
H335	May cause respiratory irritation
H336	May cause dizziness or drowsiness

Safety Data Sheet

n-Propanol

Precautionary Statements

P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition, sources. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/light.../ equipment, etc.
P242	Use only non-sparking tools.
P243	Take precautionary measures to prevent static discharge.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash... thoroughly after handling.
P271	Use only outdoors or in a well-ventilated are.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+352	IF ON SKIN: Wash with plenty of water/...
P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
P312	Call a POISON CENTER or a doctor/physician if you feel unwell.
P321	Specific treatment (see ... on this label).
P332+313	If skin irritation occurs: get medical advice/attention.
P337+313	If eye irritation persists get medical advice/attention.
P362+364	Take off immediately all contaminated clothing and wash it before reuse.
P370+378	In case of fire: Use(See Section 5 of SDS) to extinguish.
P403+233	Store in a well ventilated place. Keep container tightly closed.
P403+235	Store in a well ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
1-Propanol	71-23-8	100%	200 ppm	100 ppm

Safety Data Sheet

n-Propanol

SECTION IV - FIRST AID MEASURES

- Contact with eyes:** Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
- Skin contact:** Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.
- Inhalation:** Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.
- Ingestion:** If swallowed. Wash out mouth thoroughly with water and give plenty of water to drink. Give large quantities of water. Never give anything by mouth to an unconscious person.

SECTION V - FIREFIGHTING MEASURES

- Suitable Extinguishing Media:** Carbon Dioxide, dry-chemical or universal type spray foam.
- Special Fire Fighting Procedures** Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.
- Unusual Fire Fighting Hazards:** Product is flammable and may be ignited by heat, sparks, flames or other sources of ignition (e.g., static electricity, pilot lights or mechanical/electrical equipment). Vapors are heavier than air and may accumulate in low areas. Vapors may travel considerable distance to a source of ignition where they can ignite, flashback or explode. May create vapor/air explosion hazard indoors, outdoors or in sewers. If container is not properly cooled, it can explode in the heat of a fire.

SECTION VI - ACCIDENTAL RELEASE MEASURES

- Personal Precautions:** Keep all sources of ignition and hot metal surfaces away from spill or release.
Any/all persons dealing with the spill should wear appropriate personal protective equipment. Keep others away from spill/leak. Restrict access to area until the spill has been cleaned up.
- Environmental Precautions:** Prevent liquid from entering drains, sewers or waterways.
Contain spill if it can be done with minimal risk.
Notify proper authorities.
- Methods for Cleaning Up:** Use proper personal protective equipment. Isolate and secure the area and follow the appropriate emergency guidelines. If local high concentration of airborne mist occurs, dilute spill with plenty of water and ventilate to disperse mist laden air. Sweep up spill and reclaim or place in a covered waste disposal container. Report spill to proper authorities

Safety Data Sheet

n-Propanol

Using only non-sparking tools and explosion proof equipment, collect spill on absorbent material and put into approved container.

SECTION VII - HANDLING AND STORAGE

- Handling and Storage:**
- Obtain special instructions before use. Wear proper personal protective equipment. Use only in well ventilated areas. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks, and open flame.
 - Store in cool, dry, ventilated area away from any heat source. Storage area should be clearly identified and free of obstruction. Keep containers tightly closed and in an upright position when not in use.
 - Bond and ground all equipment when transferring from one vessel to another. The use of explosion-proof equipment is recommended.
 - "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld, braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources.
 - Keep containers tightly closed in a dry and well-ventilated place.
 - Avoid prolonged breathing of mist or vapor. Wash thoroughly after handling.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
1-Propanol	71-23-8	200 ppm	100 ppm

Engineering Controls: Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.

Monitoring: Follow accepted work practices for handling a flammable material. Do not eat, drink or smoke in areas where this chemical is used or stored. Have eye wash stations and safety showers readily available.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Wear safety glasses with un-perforated side shields. Impervious apron and work boots recommend where splashing may occur.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

Safety Data Sheet

n-Propanol

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, Colorless Liquid
Odor	Characteristic Alcohol Odor
pH@25°C	-
Melting/Freezing Point	-
Flashpoint	74°F (23°C), TCC
Specific Gravity	0.8053
Solubility	Complete
Auto-Ignition Temperature	-
Decomposition Temperature	-
VOC Content	100% (6.7#/gal)
Odor Threshold	-
Boiling Range	207°F
Evaporation Point	>1 (Butyl Acetate=1)
Flammable Limits - Upper	13.7%
Flammable Limits - Lower	2.2%
Vapor Pressure	14 mmHg @ 20°C
Vapor Density (Air=1)	2.1 (Air=1)
Viscosity	-

SECTION X - STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: Extreme heat , flame, sparks and other ignition sources.

Hazardous Decomposition/Byproducts: Oxides of carbon and nitrogen under incomplete combustion conditions.

Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None known.

Incompatibilities: Strong Oxidizers and Alkali Metals

Safety Data Sheet

n-Propanol

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: May be irritating to mucous membranes and respiratory tract
Low to moderate degree of toxicity by inhalation.

Eye Contact: Causes eye irritation including stinging, watering and redness which may result in corneal injury.

Skin Contact: Contact may cause mild skin irritation including redness, burning and drying/cracking of the skin.
redness, itching or swelling
No known significant effects or critical hazards.

Ingestion: Aspiration hazard. Can enter the lungs during swallowing or vomiting and cause chemical pneumonia and edema.
Moderate to high degree of toxicity by ingestion. May be harmful or fatal if swallowed.
No specific data.

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
1-Propanol	Oral - Rat - 8,038 mg/kg; Dermal - Rabbit - 4,000 mg/kg	Inhalation - Rat - 1 h - 20000 ppm

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity Not Listed as a Carcinogen

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Information not available.

Safety Data Sheet

n-Propanol

Mobility: Information not available.

Degradability: No data available.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow Federal, state, and local regulations.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: N-Propanol

Contains:

Hazard Class and Label: 3

Identification Number: UN 1274

Packaging Group: II

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X		X		

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

Safety Data Sheet

n-Propanol

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 1

HMIS Flammability: 3

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

Disclaimer: The information contained herein is based upon data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ksolv, Inc. assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by this material. Such vendees, users, or third parties assume all risks associated with use of this product.

Safety Data Sheet

n-Propyl Acetate

SECTION I - IDENTIFICATION

	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtec :..... (800) 424-9300
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Product Number 00058
Product Name n-Propyl Acetate
Synonyms
CAS Number 109-60-4
Date Prepared 5/1/1993
Revision Number 11/10/2020
Recommended Use Chemical intermediate Solvent

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Flammable Liquids	Category 2
Serious Eye Damage/Eye Irritation	Category 2A
Specific target organ toxicity, single exposure, N	Category 3

DANGER!

GHS LABEL:



Hazard Statements

H225	Highly flammable liquid and vapor
H319	Causes serious eye irritation
H336	May cause dizziness or drowsiness

Safety Data Sheet

n-Propyl Acetate

Precautionary Statements

P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition, sources. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/light.../ equipment, etc.
P242	Use only non-sparking tools.
P243	Take precautionary measures to prevent static discharge.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash... thoroughly after handling.
P271	Use only outdoors or in a well-ventilated are.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
P312	Call a POISON CENTER or a doctor/physician if you feel unwell.
P337+313	If eye irritation persists get medical advice/attention.
P370+378	In case of fire: Use(See Section 5 of SDS) to extinguish.
P403+233	Store in a well ventilated place. Keep container tightly closed.
P403+235	Store in a well ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Acetic Acid Propyl Ester	109-60-4	100	200 ppm	200 ppm

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Safety Data Sheet

n-Propyl Acetate

- Skin contact:** Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.
- Inhalation:** Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.
- Ingestion:** If swallowed. Wash out mouth thoroughly with water and give plenty of water to drink. Get medical attention IMMEDIATELY.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Carbon Dioxide, dry-chemical or universal type spray foam.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards:

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep all sources of ignition and hot metal surfaces away from spill or release.
Any/all persons dealing with the spill should wear appropriate personal protective equipment. Keep others away from spill/leak. Restrict access to area until the spill has been cleaned up.

Environmental Precautions: Prevent liquid from entering drains, sewers or waterways.
Contain spill if it can be done with minimal risk.
Notify proper authorities.

Methods for Cleaning Up: Use proper personal protective equipment. Isolate and secure the area and follow the appropriate emergency guidelines. If local high concentration of airborne mist occurs, dilute spill with plenty of water and ventilate to disperse mist laden air. Sweep up spill and reclaim or place in a covered waste disposal container. Report spill to proper authorities
Using only non-sparking tools and explosion proof equipment, collect spill on absorbent material and put into approved container.

SECTION VII - HANDLING AND STORAGE

Handling and Storage:

- Obtain special instructions before use. Wear proper personal protective equipment. Use only in well ventilated areas. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing. Keep away from heat, sparks, and open flame.

Safety Data Sheet

n-Propyl Acetate

- Store in cool, dry, ventilated area away from any heat source. Storage area should be clearly identified and free of obstruction. Keep containers tightly closed and in an upright position when not in use.
- Bond and ground all equipment when transferring from one vessel to another. The use of explosion-proof equipment is recommended.
- "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld, braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources.
- Keep containers tightly closed in a dry and well-ventilated place.
- Avoid prolonged breathing of mist or vapor. Wash thoroughly after handling.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Acetic Acid Propyl Ester	109-60-4	200 ppm	200 ppm

Engineering Controls: Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.

Monitoring: Follow accepted work practices for handling a flammable material. Do not eat, drink or smoke in areas where this chemical is used or stored. Have eye wash stations and safety showers readily available.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Wear safety glasses with un-perforated side shields. Impervious apron and work boots recommend where splashing may occur.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Safety Data Sheet

n-Propyl Acetate

Appearance	Clear Liquid
Odor	Sweet ester-like
pH@25°C	-
Melting/Freezing Point	-134°F/-92°C
Flashpoint	55°F/13°C Closed Cup
Specific Gravity	
Solubility	2.3 g/l
Auto-Ignition Temperature	-
Decomposition Temperature	-
VOC Content	100% (7.39#/gal)
Odor Threshold	20 ppm
Boiling Range	216°F/102°C
Evaporation Point	2.3 (Butyl Acetate=1)
Flammable Limits - Upper	-
Flammable Limits - Lower	-
Vapor Pressure	31 mbar (68°F/20°C)
Vapor Density (Air=1)	3.5 (Air=1)
Viscosity	0.58 mPa.s.(68°F/20°C)

SECTION X - STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: None

Hazardous Decomposition/Byproducts: Oxides of carbon and nitrogen under incomplete combustion conditions.

Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None known.

Incompatibilities: Strong acids. Strong bases. Strong oxidizers

Safety Data Sheet

n-Propyl Acetate

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: Irritation of nose and or throat, drowsiness, headache, nausea.

Eye Contact: Causes eye irritation including stinging, watering and redness which may result in corneal injury.

Skin Contact: Contact may cause mild skin irritation including redness, burning and drying/cracking of the skin.

Ingestion: Low degree of toxicity by ingestion.

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Acetic Acid Propyl Ester	Oral - Rat - 8,700 mg/kg; Dermal - Rabbit - 17,800 mg/kg	Inhalation - Rat - 4 h/32 mg/l

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity Not listed as carcinogenic by IARC, OSHA, or ACGIH

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Information not available.

Mobility: Information not available.

Safety Data Sheet

n-Propyl Acetate

Degradability: No data available.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow Federal, state, and local regulations. If uncontaminated product becomes waste, it is regulated as RCRA waste #D001.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: N-Propyl Acetate

Contains:

Hazard Class and Label: 3

Identification Number: UN 1276

Packaging Group: II

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
		X		

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

Safety Data Sheet

n-Propyl Acetate

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 2

HMIS Flammability: 3

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

Disclaimer: The information contained herein is based upon data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ksolv, Inc. assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by this material. Such vendees, users, or third parties assume all risks associated with use of this product.

Safety Data Sheet
Odorless Mineral Spirits

SECTION I - IDENTIFICATION

	<p>K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtrec :..... (800) 424-9300</p>
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Product Number	00008
Product Name	Odorless Mineral Spirits
Synonyms	Isoparaffins, Aliphatic Hydrocarbon, Isoalkenes
CAS Number	68551-16-6
Date Prepared	1/4/2008
Revision Number	11/5/2019
Recommended Use	Solvent

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Flammable Liquids	Category 3
Aspiration Hazard	Category 1
Specific target organ toxicity, single exposure, R	Category 3

DANGER!

GHS LABEL:



Hazard Statements

H226	Flammable liquid and vapor
H304	May be fatal if swallowed and enters airways
H335	May cause respiratory irritation

Safety Data Sheet

Odorless Mineral Spirits

Precautionary Statements

P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition, sources. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/light.../ equipment, etc.
P242	Use only non-sparking tools.
P243	Take precautionary measures to prevent static discharge.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P271	Use only outdoors or in a well-ventilated are.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER or a doctor/physician if you feel unwell.
P331	Do NOT induce vomiting.
P370+378	In case of fire: Use(See Section 5 of SDS) to extinguish.
P403+233	Store in a well ventilated place. Keep container tightly closed.
P403+235	Store in a well ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
C9-C11 Isoalkanes	68551-16-6	95%-100%	Not Established	Not Established

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.
If skin irritation persists, call a physician.

Safety Data Sheet

Odorless Mineral Spirits

Inhalation: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. If breathing stops, give artificial respiration. Get medical advice/attention.

Ingestion: Never give anything by mouth to an unconscious person.
Keep respiratory tract clear.
Do Not induce vomiting.
Take victim immediately to hospital.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Alcohol resistant foam. Carbon dioxide (CO2).
Dry Chemical.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards: Product is flammable and may be ignited by heat, sparks, flames or other sources of ignition (e.g., static electricity, pilot lights or mechanical/electrical equipment). Vapors are heavier than air and may accumulate in low areas. Vapors may travel considerable distance to a source of ignition where they can ignite, flashback or explode. May create vapor/air explosion hazard indoors, outdoors or in sewers. If container is not properly cooled, it can explode in the heat of a fire.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep all sources of ignition and hot metal surfaces away from spill or release.
Any/all persons dealing with the spill should wear appropriate personal protective equipment. Keep others away from spill/leak. Restrict access to area until the spill has been cleaned up.

Environmental Precautions: Prevent liquid from entering drains, sewers or waterways.
Contain spill if it can be done with minimal risk.
Notify proper authorities.

Methods for Cleaning Up: Use proper personal protective equipment. Isolate and secure the area and follow the appropriate emergency guidelines. If local high concentration of airborne mist occurs, dilute spill with plenty of water and ventilate to disperse mist laden air. Sweep up spill and reclaim or place in a covered waste disposal container. Report spill to proper authorities
Using only non-sparking tools and explosion proof equipment, collect spill on absorbent material and put into approved container.

SECTION VII - HANDLING AND STORAGE

Handling and Storage:

- Store in cool, dry, ventilated area away from any heat source. Storage area should be clearly identified and free of obstruction. Keep containers tightly closed and in an upright position when not in use.

Safety Data Sheet
Odorless Mineral Spirits

- Bond and ground all equipment when transferring from one vessel to another. The use of explosion-proof equipment is recommended.
- "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld, braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources.
- Keep containers tightly closed in a dry and well-ventilated place.
- Keep containers tightly closed in a dry and well-ventilated place.
- Avoid prolonged breathing of mist or vapor. Wash thoroughly after handling.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
C9-C11 Isoalkanes	68551-16-6	Not Established	Not Established

Engineering Controls: Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.

Monitoring: Follow accepted work practices for handling a flammable material.
Do not eat, drink or smoke in areas where this chemical is used or stored.
Have eye wash stations and safety showers readily available.

Personal Protective Equipment (PPE)

Eye Protection: Wear safety glasses. Where the opportunity for a splash or spray caused by high pressure or agitation of the material is possible, use a face shield and chemical goggles.

Skin Protection: Wear safety glasses with un-perforated side shields.
Impervious apron and work boots recommend where splashing may occur.
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Safety Data Sheet
Odorless Mineral Spirits

Appearance	Clear, Colorless Liquid
Odor	Mild Hydrocarbon
pH@25°C	NDA
Melting/Freezing Point	NDA
Flashpoint	48°C Closed Cup
Specific Gravity	0.76
Solubility	Negligible
Auto-Ignition Temperature	336°C
Decomposition Temperature	NDA
VOC Content	>99%
Odor Threshold	NDA
Boiling Range	178-188°C
Evaporation Point	1
Flammable Limits - Upper	Not Established
Flammable Limits - Lower	Not Established
Vapor Pressure	1.00MMHG @20°C
Vapor Density (Air=1)	3
Viscosity	1.12cSt @38°C

SECTION X - STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to Avoid: Heat, sparks, open flame, other ignition sources, and oxidizing conditions.

Hazardous Decomposition/Byproducts: Carbon oxides (CO, CO₂).

Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None known.

Incompatibilities: Strong oxidizing agents

Safety Data Sheet
Odorless Mineral Spirits

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: May be fatal if swallowed and enters airways. Substances known to cause human aspiration toxicity hazards or to be regarded as if they cause human aspiration toxicity hazard.

Eye Contact: Causes eye irritation including stinging, watering and redness which may result in corneal injury.
Prolonged contact can result in chemical burns and permanent tissue damage.

Skin Contact: Contact may cause mild skin irritation including redness, burning and drying/cracking of the skin.
redness, itching or swelling

Ingestion: Aspiration hazard. Can enter the lungs during swallowing or vomiting and cause chemical pneumonia and edema.

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
C9-C11 Isoalkanes	Acute oral toxicity rat: 34.6 mg/kg; Acute Dermal toxicity	Not Established

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity Not Listed as a Carcinogen

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Harmful to aquatic life.

Mobility: Information not available.

Safety Data Sheet
Odorless Mineral Spirits

Degradability: Readily biodegradeable.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow Federal, state, and local regulations.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Hydrocarbons, Liquid, N.O.S. (Bulk Only)

Contains:

Hazard Class and Label: 3

Identification Number: UN3295

Packaging Group: III

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X	X	X		

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

Safety Data Sheet
Odorless Mineral Spirits

CALIFORNIA PROPOSITION 65:

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION
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HMIS Health: 1

HMIS Flammability: 2

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

Disclaimer: The information contained herein is based upon data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ksolv, Inc. assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by this material. Such vendees, users, or third parties assume all risks associated with use of this product.

Safety Data Sheet

Perchloroethylene

SECTION I - IDENTIFICATION



K-Solv Chemicals, LLC
9660 Katy Freeway
Houston, TX 77055
(866) 576-5846
Chemtec :..... (800) 424-9300

Product Number 00029
Product Name Perchloroethylene
Synonyms Solvent
CAS Number 127-18-4
Date Prepared 10/3/1994
Revision Number 5/20/2019
Recommended Use Industrial Use Only

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Aspiration Hazard	Category 2
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2A
Specific target organ toxicity, single exposure, N	Category 3
Germ Cell Mutagenicity	Category 2
Carcinogenicity	Category 1A, 1B
Reproductive Toxicity	Category 1A, 1B
Specific target organ toxicity, repeated exposure	Category 1
Hazardous to the aquatic environment, acute hazard	Category 2
Hazardous to the aquatic environment, long-term hazard	Category 2

DANGER!

GHS LABEL:



Safety Data Sheet

Perchloroethylene

Hazard Statements

H305	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H319	Causes serious eye irritation
H336	May cause dizziness or drowsiness
H341	Suspected of causing genetic defects
H350	May cause cancer
H360	May damage fertility or the unborn child
H372	Causes damage to organs through prolonged or repeated exposure
H401	Toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects

Precautionary Statements

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash... thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated are.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302+352	IF ON SKIN: Wash with plenty of water/...
P304+340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
P308+313	IF exposed or concerned: get medical advice/attention.
P312	Call a POISON CENTER or a doctor/physician if you feel unwell.
P314	Get medical advice/attention if you feel unwell.
P321	Specific treatment (see ... on this label).
P331	Do NOT induce vomiting.
P332+313	If skin irritation occurs: get medical advice/attention.
P337+313	If eye irritation persists get medical advice/attention.

Safety Data Sheet

Perchloroethylene

P362+364	Take off immediately all contaminated clothing and wash it before reuse.
P391	Collect spillage.
P403+233	Store in a well ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Tetrachlorethylene	127-18-4	100%	25ppm	25 ppm

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

Inhalation: Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.

Ingestion: If swallowed. Wash out mouth thoroughly with water and give plenty of water to drink.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Carbon Dioxide, dry-chemical or universal type spray foam.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards: Product is flammable and may be ignited by heat, sparks, flames or other sources of ignition (e.g., static electricity, pilot lights or mechanical/electrical equipment). Vapors are heavier than air and may accumulate in low areas. Vapors may travel considerable distance to a source of ignition where they can ignite, flashback or explode. May create vapor/air explosion hazard indoors, outdoors or in sewers. If container is not properly cooled, it can explode in the heat of a fire.

Safety Data Sheet

Perchloroethylene

SECTION VI - ACCIDENTAL RELEASE MEASURES

- Personal Precautions:** Keep all sources of ignition and hot metal surfaces away from spill or release.
Any/all persons dealing with the spill should wear appropriate personal protective equipment. Keep others away from spill/leak. Restrict access to area until the spill has been cleaned up.
- Environmental Precautions:** Prevent liquid from entering drains, sewers or waterways.
Contain spill if it can be done with minimal risk.
Notify proper authorities.
- Methods for Cleaning Up:** Use proper personal protective equipment. Isolate and secure the area and follow the appropriate emergency guidelines. If local high concentration of airborne mist occurs, dilute spill with plenty of water and ventilate to disperse mist laden air. Sweep up spill and reclaim or place in a covered waste disposal container. Report spill to proper authorities
Using only non-sparking tools and explosion proof equipment, collect spill on absorbent material and put into approved container.
If spill happens in building, turn off all heating and/or air conditioning units.

SECTION VII - HANDLING AND STORAGE

- Handling and Storage:**
- Store in cool, dry, ventilated area away from any heat source. Storage area should be clearly identified and free of obstruction. Keep containers tightly closed and in an upright position when not in use.
 - "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld, braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources.
 - Keep containers tightly closed in a dry and well-ventilated place.
 - Avoid prolonged breathing of mist or vapor. Wash thoroughly after handling.
 - NFPA Class III B storage.
 - Store out of direct sunlight and in a cool, well-ventilated area.
 - Prevent water and/or moist air from entering the storage area.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Tetracholorehtylene	127-18-4	25ppm	25 ppm

Engineering Controls: Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.

Monitoring: Follow accepted work practices for handling a flammable material.
Do not eat, drink or smoke in areas where this chemical is used or stored.

Safety Data Sheet

Perchloroethylene

Any clothing or shoes which became contaminated with the product should be removed immediately and thoroughly laundered before wearing again.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Wear safety glasses with un-perforated side shields.
Impervious apron and work boots recommend where splashing may occur.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, Colorless Liquid
Odor	Characteristic Odor
pH@25°C	-
Melting/Freezing Point	-
Flashpoint	None, TCC;
Specific Gravity	1.62
Solubility	0.015Gr/100Gr@25°C
Auto-Ignition Temperature	-
Decomposition Temperature	-
VOC Content	0%
Odor Threshold	-
Boiling Range	250°F
Evaporation Point	0.1 (Ether=1)
Flammable Limits - Upper	19% (vol.) @ 100°C
Flammable Limits - Lower	12%
Vapor Pressure	13 mmHg @ 20°C
Vapor Density (Air=1)	5.8 (Air=1)
Viscosity	-

SECTION X - STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: Sparks, fire, and extreme temperatures.

Hazardous Decomposition/Byproducts: Hydrogen chloride, phosgene, chlorine

Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None known.

Safety Data Sheet

Perchloroethylene

Incompatibilities: Strong Oxidizers, alkalis, nitrogen peroxide, reactive metals, open flame, hot surfaces

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: Low to moderate degree of toxicity by inhalation.
May cause respiratory tract irritation. Inhalation of vapors may cause drowsiness and dizziness.

Eye Contact: Causes eye irritation including stinging, watering and redness which may result in corneal injury.
High vapor concentrations are irritating to the eyes.

Skin Contact: Contact may cause mild skin irritation including redness, burning and drying/cracking of the skin.
Can be painful if skin is confined in gloves, clothing, etc.
Repeated or prolonged contact with large amounts of this material may result in absorption through the skin to produce toxic effects.

Ingestion: Aspiration hazard. Can enter the lungs during swallowing or vomiting and cause chemical pneumonia and edema.
Moderate to high degree of toxicity by ingestion. May be harmful or fatal if swallowed.

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Tetrachlorethylene	Oral - rat - 2,629 mg/kg; Dermal - rabbit - 5,000 mg/kg	Inhalation - rat - 8 h - 34,200 mg/m ³

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity IARC has Concluded That There is Sufficient Evidence for the Carcinogenicity

Safety Data Sheet

Perchloroethylene

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Information not available.

Mobility: Information not available.

Degradability: No data available.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow Federal, state, and local regulations.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Tetrachloroethylene

Contains:

Hazard Class and Label: 6

Identification Number: UN 1897

Packaging Group: III

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X	X			

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

Safety Data Sheet

Perchloroethylene

Component Name	CAS #	% by wt.
	127-18-4	100%

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

Component Name	CAS #	% by wt.	RQ (lbs.)
Tetrachloroethylene	127-18-4	100%	100

CALIFORNIA PROPOSITION 65:

This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

SECTION XVI - OTHER INFORMATION

HMIS Health: 2

HMIS Flammability: 0

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

Disclaimer: The information contained herein is based upon data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ksolv, Inc. assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by this material. Such vendees, users, or third parties assume all risks associated with use of this product.

Safety Data Sheet

PPG 4000

SECTION I - IDENTIFICATION



K-Solv Chemicals, LLC

9660 Katy Freeway

Houston, TX 77055

(866) 576-5846

Chemtrec :..... (800) 424-9300

Product Number 12548
Product Name PPG 4000
Synonyms
CAS Number Multiple
Date Prepared 1/29/2019
Revision Number 1/29/2019
Recommended Use

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

GHS LABEL:

Safety Data Sheet

PPG 4000

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV

SECTION IV - FIRST AID MEASURES

Contact with eyes: Immediately flush eye(s) with plenty of water. If eye irritation persists, consult a specialist.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

Inhalation: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or a doctor.

Ingestion: Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Never give anything by mouth to an unconscious person.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Water fog, foam, carbon dioxide, or dry chemical

Special Fire Fighting Procedures Self contained breathing apparatus and full protective clothing must be worn in case of fire.

Do not allow run-off from fire fighting to enter drains or water course.

Unusual Fire Fighting Hazards:

Safety Data Sheet

PPG 4000

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Use Personal protective equipment.

Environmental Precautions: Contain spill if it can be done with minimal risk. Prevent liquid from entering drains, sewers or waterways. Notify proper authorities.
Keep from entering storm sewers and ditches which lead to waterways.

Methods for Cleaning Up: Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

SECTION VII - HANDLING AND STORAGE

Handling and Storage:

- Conditions for safe handling: Avoid breathing mist or vapor. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV

Engineering Controls: Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Monitoring: Do not eat, drink or smoke in areas where this chemical is used or stored.

Personal Protective Equipment (PPE)

Eye Protection: Wear safety glasses with side shields (or goggles) and a face shield.

Skin Protection: Wear impervious chemical resistant gloves.
Use PPE that is chemical resistant to the product and prevents skin contact.

Respiratory Protection: A NIOSH approved respirator with N95 (dust, fume, mist) cartridges may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits, or when symptoms have been observed that are indicative of overexposure. A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

Safety Data Sheet

PPG 4000

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear Liquid
Odor	Mild
pH@25°C	4.5 - 6.0
Melting/Freezing Point	NDA
Flashpoint	415°F
Specific Gravity	1
Solubility	NDA
Auto-Ignition Temperature	NDA
Decomposition Temperature	NDA
VOC Content	
Odor Threshold	
Boiling Range	NDA
Evaporation Point	NDA
Flammable Limits - Upper	NDA
Flammable Limits - Lower	NDA
Vapor Pressure	NDA
Vapor Density (Air=1)	>1
Viscosity	NDA

SECTION X - STABILITY AND REACTIVITY

Stability:

Conditions to Avoid: Extreme heat , flame, sparks and other ignition sources.

Hazardous Decomposition/Byproducts: Toxic gases/fumes are given off during burning or thermal decomposition. During combustion carbon monoxide may be formed. During combustion carbon dioxide may be formed decomposition releases nitrogen oxides.

Hazardous Polymerization:

Polymerization Conditions to Avoid:

Incompatibilities: Prevent Contact with isocyanates. Prevent contact with strong oxidizing agents.

Safety Data Sheet

PPG 4000

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure:

Inhalation:

Eye Contact:

Skin Contact:

Ingestion:

Acute Toxicity Value:

Chronic (Long Term) Effects:

Toxicity:

Component Name	LD50	LC50

Reproductive Effects NDA

Teratogenicity NDA

Mutagenicity NDA

Embryotoxicity NDA

Sensitization to Product NDA

Synergistic Products NDA

Carcinogenicity NDA

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity:

Mobility:

Safety Data Sheet

PPG 4000

Degradability:

BioAccumulation:

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Not Regulated

Contains:

Hazard Class and Label:

Identification Number:

Packaging Group:

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:.....

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X	X	X		X

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

Safety Data Sheet

PPG 4000

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 0

HMIS Flammability: 1

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet:

Email address:

Training necessary:

Disclaimer:

Safety Data Sheet
Propylene Carbonate

SECTION I - IDENTIFICATION

	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtrec :..... (800) 424-9300
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Product Number 00017
Product Name Propylene Carbonate
Synonyms
CAS Number 108-32-7
Date Prepared 5/28/2015
Revision Number 3/28/2019
Recommended Use Solvent extraction, uses in coatings, uses in cleaning agents, and in laboratories

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Serious Eye Damage/Eye Irritation

Category 2A

WARNING!

GHS LABEL:



Hazard Statements

H319 Causes serious eye irritation

Safety Data Sheet
Propylene Carbonate

Precautionary Statements

- P264 Wash... thoroughly after handling.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
- P337+313 If eye irritation persists get medical advice/attention.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Propylene Carbonate	108-32-7	100%	Not Established	Not Established

SECTION IV - FIRST AID MEASURES

- Contact with eyes:** Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
- Skin contact:** Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.
- Inhalation:** Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.
- Ingestion:** If swallowed. Wash out mouth thoroughly with water and give plenty of water to drink.

SECTION V - FIREFIGHTING MEASURES

- Suitable Extinguishing Media:** Use dry chemical, Carbon Dioxide, Water Spray, Water Fog, or foam.
- Special Fire Fighting Procedures** Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.
- Unusual Fire Fighting Hazards:** Product is flammable and may be ignited by heat, sparks, flames or other sources of ignition (e.g., static electricity, pilot lights or mechanical/electrical equipment). Vapors are heavier than air and may accumulate in low areas.

Safety Data Sheet
Propylene Carbonate

SECTION VI - ACCIDENTAL RELEASE MEASURES

- Personal Precautions:** Keep all sources of ignition and hot metal surfaces away from spill or release.
Any/all persons dealing with the spill should wear appropriate personal protective equipment. Keep others away from spill/leak. Restrict access to area until the spill has been cleaned up.
- Environmental Precautions:** Prevent liquid from entering drains, sewers or waterways.
Contain spill if it can be done with minimal risk.
Notify proper authorities.
- Methods for Cleaning Up:** Using only non-sparking tools and explosion proof equipment, collect spill on absorbent material and put into approved container.

SECTION VII - HANDLING AND STORAGE

- Handling and Storage:**
- Store in cool, dry, ventilated area away from any heat source. Storage area should be clearly identified and free of obstruction. Keep containers tightly closed and in an upright position when not in use.
 - "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld, braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources.
 - Keep containers tightly closed in a dry and well-ventilated place.
 - Avoid prolonged breathing of mist or vapor. Wash thoroughly after handling.
 - NFPA Class III B storage.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Propylene Carbonate	108-32-7	Not Established	Not Established

Engineering Controls: Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.

Monitoring: Follow accepted work practices for handling a flammable material.
Do not eat, drink or smoke in areas where this chemical is used or stored.
Have eye wash stations and safety showers readily available.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Wear safety glasses with un-perforated side shields.
Impervious apron and work boots recommend where splashing may occur.

Safety Data Sheet
Propylene Carbonate

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, Colorless Liquid
Odor	Slight Odor
pH@25°C	5.5 - 7.5
Melting/Freezing Point	-49°C
Flashpoint	116°C
Specific Gravity	1.2
Solubility	Soluble
Auto-Ignition Temperature	455°C
Decomposition Temperature	NDA
VOC Content	100%
Odor Threshold	NDA
Boiling Range	242°C
Evaporation Point	<0.01
Flammable Limits - Upper	32.5%
Flammable Limits - Lower	1.7%
Vapor Pressure	0.04 hPa @ 20°C
Vapor Density (Air=1)	1.2 (Air=1)
Viscosity	2.8 mm ² s @ 40°C

SECTION X - STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to Avoid: Extreme heat , flame, sparks and other ignition sources.

Hazardous Decomposition/Byproducts: CO, CO₂, and various hydrocarbons under combustion conditions.

Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None known.

Incompatibilities: Strong acids. Strong bases. Strong oxidizers

Safety Data Sheet
Propylene Carbonate

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: No data available.

Eye Contact: This material can cause significant eye irritation.

Skin Contact: No data available.

Ingestion: No data available.

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Propylene Carbonate	Oral - Rat - > 5,000 mg/kg; Dermal - Rabbit - > 2,000 mg/kg	Not Established

Reproductive Effects Not Classified

Teratogenicity Not Classified

Mutagenicity Not Classified

Embryotoxicity Not Classified

Sensitization to Product Not Classified

Synergistic Products Not Classified

Carcinogenicity Not Classified

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Not classified in terms of ecotoxicity.

Mobility: Information not available.

Safety Data Sheet
Propylene Carbonate

Degradability: Rapidly Biodegradable.

BioAccumulation: Does not accumulate or biomagnify in the environment.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow Federal, State, and Local regulations.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Not Regulated

Contains:

Hazard Class and Label:

Identification Number:

Packaging Group:

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X				

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

Safety Data Sheet
Propylene Carbonate

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 2

HMIS Flammability: 1

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet:

Email address:

Training necessary:

Disclaimer:

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : SI-327C

1.2. Recommended use and restrictions on use

Recommended use : Scale inhibitor
Restrictions on use : None known

1.3. Supplier

Aquapharm PChem LLC
3985 US Hwy 287 N.
Latexo, TX 75849
T +1 (936) 544-5174 Ext. 113

1.4. Emergency telephone number

Emergency number : CHEMTREC (7 days a week, 24 hours a day) (800) 424-9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin Irrit. 2	H315	Causes skin irritation
Eye Irrit. 2	H319	Causes serious eye irritation

Full text of hazard classes and H-statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) : Warning

Hazard statements (GHS-US) : H315 - Causes skin irritation
H319 - Causes serious eye irritation

Precautionary statements (GHS-US) : P264 - Wash hands, forearms and face thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - If on skin: Wash with plenty of water
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P321 - Specific treatment (see supplemental first aid instruction on this label)

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P332+P313 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : None.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
Phosphonic acid, [[(phosphonomethyl)imino]bis[2,1-ethanediyl]nitrolobis(methylene)]]tetrakis-, ammonium salt	(CAS-No.) 70714-66-8	48 - 52	Skin Irrit. 2, H315 Eye Irrit. 2, H319
Ammonium chloride	(CAS-No.) 12125-02-9	5 - 10	Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Take off contaminated clothing. Wash skin with plenty of water. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after skin contact : Irritation.
Symptoms/effects after eye contact : Eye irritation.

4.3. Immediate medical attention and special treatment, if necessary

Not applicable.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media : Not determined.

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5.2. Specific hazards arising from the chemical

Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Exercise caution when fighting any chemical fire.
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Avoid contact with skin and eyes. Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : In case of large spillages: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Shovel or sweep up and put in a closed container for disposal. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Wear personal protective equipment.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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Phosphonic acid, [[[phosphonomethyl)imino]bis[2,1-ethanediyl]nitrilobis(methylene)]]tetrakis-, ammonium salt (70714-66-8)

Not applicable

Ammonium chloride (12125-02-9)

ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³ (fume)
ACGIH	ACGIH STEL (mg/m ³)	20 mg/m ³ (fume)

Water (7732-18-5)

Not applicable

8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Color	: Not determined
Odor	: characteristic
Odor threshold	: No data available
pH	: 6.8 - 7.2
Melting point	: Not applicable
Freezing point	: No data available

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Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: 1.25
Specific gravity / density	: 10.4 lb/gal
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Strong oxidizing agents.

SI-327C

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. On combustion, forms: carbon oxides (CO and CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Ammonium chloride (12125-02-9)	
LD50 oral rat	1650 mg/kg
ATE US (oral)	1650 mg/kg body weight

Skin corrosion/irritation : Causes skin irritation.
pH: 6.8 - 7.2

Serious eye damage/irritation : Causes serious eye irritation.
pH: 6.8 - 7.2

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity – single exposure : Not classified

Specific target organ toxicity – repeated exposure : Not classified

Aspiration hazard : Not classified

Symptoms/effects after skin contact : Irritation.

Symptoms/effects after eye contact : Eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Ammonium chloride (12125-02-9)	
LC50 fish 1	209 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [static])

12.2. Persistence and degradability

SI-327C	
Persistence and degradability	Not established.

SI-327C

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

12.3. Bioaccumulative potential

SI-327C

Bioaccumulative potential	Not established.
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12.4. Mobility in soil

SI-327C

Ecology - soil	Not established.
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12.5. Other adverse effects

Effect on global warming Not established

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

SI-327C

SARA Section 311/312 Hazard Classes	Health hazard - Serious eye damage or eye irritation Health hazard - Skin corrosion or Irritation
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All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

SI-327C

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Ammonium chloride (12125-02-9)

CERCLA RQ	5000 lb
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15.2. International regulations

CANADA

Phosphonic acid, [[[phosphonomethyl]imino]bis[2,1-ethanediyl]nitrilobis(methylene)]]tetrakis-, ammonium salt (70714-66-8)

Listed on the Canadian DSL (Domestic Substances List)

Ammonium chloride (12125-02-9)

Listed on the Canadian DSL (Domestic Substances List)

Water (7732-18-5)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Phosphonic acid, [[[phosphonomethyl]imino]bis[2,1-ethanediyl]nitrilobis(methylene)]]tetrakis-, ammonium salt (70714-66-8)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Ammonium chloride (12125-02-9)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Water (7732-18-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Phosphonic acid, [[[phosphonomethyl]imino]bis[2,1-ethanediyl]nitrilobis(methylene)]]tetrakis-, ammonium salt (70714-66-8)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Ammonium chloride (12125-02-9)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)
Listed on the TCSI (Taiwan Chemical Substance Inventory)

SI-327C

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Water (7732-18-5)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)

15.3. US State regulations

SI-327C

U.S. - California - Proposition 65 - Other information	California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm
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Ammonium chloride (12125-02-9)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Revision date : 08/17/2018

Other information : **DISCLAIMER OF LIABILITY** The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Full text of H-phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product

Safety Data Sheet

Sorbitol 70%

SECTION I - IDENTIFICATION

	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtrec :..... (800) 424-9300
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Product Number	BU2853-00
Product Name	Sorbitol 70%
Synonyms	D-Glucitol
CAS Number	Multiple
Date Prepared	10/2/2015
Revision Number	10/2/2015
Recommended Use	Laboratory chemicals, Manufacture of substances

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Not a Hazardous Substance or Mixture

No Hazards

GHS LABEL:

Hazard Statements

NC Not a Hazardous Substance or Mixture

Safety Data Sheet

Sorbitol 70%

Precautionary Statements

NC	Not a Hazardous Substance or Mixture
P102	Keep out of reach of children.
P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition, sources. No smoking.
P243	Take precautionary measures to prevent static discharge.
P270	Do not eat, drink or smoke when using this product.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Water	7732-18-5		Not Established	Not Established
Sorbitol	50-70-4		no data available	no data available

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

Inhalation: Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.

Ingestion: If swallowed. Wash out mouth thoroughly with water and give plenty of water to drink.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Carbon Dioxide, dry-chemical or universal type spray foam.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards: No unusual fire hazards known.

Safety Data Sheet

Sorbitol 70%

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep all sources of ignition and hot metal surfaces away from spill or release. Evacuate all unprotected personnel from the area.

Environmental Precautions: Contain spill if it can be done with minimal risk. Prevent liquid from entering drains, sewers or waterways. Notify proper authorities.

Methods for Cleaning Up: Use absorbent materials such as sand, earth or vermiculate on land spills. Use absorbent booms or skimming devices on water spills

SECTION VII - HANDLING AND STORAGE

Handling and Storage:

- "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld, braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources.
- Keep containers tightly closed in a dry and well-ventilated place.
- Avoid prolonged breathing of mist or vapor. Wash thoroughly after handling.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Water	7732-18-5	Not Established	Not Established
Sorbitol	50-70-4	no data available	no data available

Engineering Controls: Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.

Monitoring: Do not eat, drink or smoke in areas where this chemical is used or stored. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking, using the lavatory and at the end of the working period. Remove contaminated clothing and protective equipment before entering eating areas.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Impervious solvent resistant gloves. Impervious apron and work boots recommend where splashing may occur.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

Safety Data Sheet

Sorbitol 70%

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	white powder
Odor	No data available
pH@25°C	5-7
Melting/Freezing Point	208-212°F
Flashpoint	No data available
Specific Gravity	1.29
Solubility	182 g/l
Auto-Ignition Temperature	No data available
Decomposition Temperature	No data available
VOC Content	No data available
Odor Threshold	No data available
Boiling Range	No data available
Evaporation Point	No data available
Flammable Limits - Upper	Not Established
Flammable Limits - Lower	Not Established
Vapor Pressure	<0.1mmHg @ 20°C
Vapor Density (Air=1)	No data available
Viscosity	No data available

SECTION X - STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: None

Hazardous Decomposition/Byproducts: CO, CO₂, and various hydrocarbons under combustion conditions.

Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None known.

Incompatibilities: Strong acids. Strong bases. Strong oxidizers

Safety Data Sheet

Sorbitol 70%

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: Not expected to be a hazard for static vapor at ambient temperatures. Inhalation of mist or spray may be harmful and cause pulmonary edema or aspiration pneumonia. Fluid deposits in the lung may lead to fibrosis and reduced pulmonary function.

Eye Contact: redness, burning, swelling, tearing or pain

Skin Contact: Contact may cause mild skin irritation including redness, burning and drying/cracking of the skin.
redness, itching or swelling

Ingestion: Low degree of toxicity by ingestion.

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Water	Not Established	Not Established
Sorbitol	15,900 mg/kg ORAL Rat	no data available

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Carcinogenicity Not Listed as a Carcinogen by OSHA or ACGIH

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Information not available.

Safety Data Sheet

Sorbitol 70%

Mobility: Information not available.

Degradability: Readily biodegradeable.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow Federal ,state, and local regulations.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Not Regulated

Contains:

Hazard Class and Label: none

Identification Number:

Packaging Group:

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
N/A				

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

Safety Data Sheet

Sorbitol 70%

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 0

HMIS Flammability: 0

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

Disclaimer: The information contained herein is based upon data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ksolv, Inc. assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by this material. Such vendees, users, or third parties assume all risks associated with use of this product.

Safety Data Sheet

Soybean Oil

SECTION I - IDENTIFICATION



K-Solv Chemicals, LLC
9660 Katy Freeway
Houston, TX 77055
(866) 576-5846
Chemtrec :..... (800) 424-9300

Product Number KS0128
Product Name Soybean Oil
Synonyms
CAS Number 8001-22-7
Date Prepared 11/14/2016
Revision Number
Recommended Use Laboratory chemicals, Manufacture of substances

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Not a Hazardous Substance or Mixture

No Hazards

GHS LABEL:

Hazard Statements

NC Not a Hazardous Substance or Mixture

Safety Data Sheet

Soybean Oil

Precautionary Statements

NC	Not a Hazardous Substance or Mixture
P102	Keep out of reach of children.
P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition, sources. No smoking.
P243	Take precautionary measures to prevent static discharge.
P270	Do not eat, drink or smoke when using this product.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Soybean oil	8001-22-7	100%	Not established	Not established

SECTION IV - FIRST AID MEASURES

Contact with eyes: Rinse immediately with plenty of water (for at least 15 minutes). If eye irritation persists: Get medical advice/attention.

Skin contact: Wash off with soap and plenty of water.

Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration.

Ingestion: Never give anything by mouth to an unconscious person.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special Fire Fighting Procedures Incompatible with oxidizing agents.

Unusual Fire Fighting Hazards: No unusual fire hazards known.

Safety Data Sheet

Soybean Oil

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Avoid breathing vapors, mists or gas.

Environmental Precautions: Contain spill if it can be done with minimal risk.

Methods for Cleaning Up: Clean up residual material by washing area with water. Collect washings for disposal.

SECTION VII - HANDLING AND STORAGE

Handling and Storage:

- Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Soybean oil	8001-22-7	Not established	Not established

Engineering Controls: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Monitoring: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking, using the lavatory and at the end of the working period. Remove contaminated clothing and protective equipment before entering eating areas.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Impervious solvent resistant gloves. Impervious apron and work boots recommend where splashing may occur.

Respiratory Protection: If good ventilation is not available, wear a respiratory device approved by NIOSH/MSHA for protection against organic vapors, mists and dust. If handling large quantities, use a certified SCBA apparatus.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Safety Data Sheet

Soybean Oil

Appearance	Liquid, clear, light yellow
Odor	No data available
pH@25°C	No data available
Melting/Freezing Point	No data available
Flashpoint	> 113 °C (> 235 °F) - closed cup
Specific Gravity	0.917 g/cm ³
Solubility	No data available
Auto-Ignition Temperature	No data available
Decomposition Temperature	No data available
VOC Content	No data available
Odor Threshold	No data available
Boiling Range	No data available
Evaporation Point	No data available
Flammable Limits - Upper	No data available
Flammable Limits - Lower	No data available
Vapor Pressure	No data available
Vapor Density (Air=1)	No data available
Viscosity	No data available

SECTION X - STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions to Avoid: Oxidizing agents

Hazardous Decomposition/Byproducts: No data available.

Hazardous Polymerization: No information available.

Polymerization Conditions to Avoid: None known.

Incompatibilities: None known

Safety Data Sheet

Soybean Oil

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Not Available.

Inhalation: No data available.

Eye Contact: No data available.

Skin Contact: No data available.

Ingestion: No data available.

Toxicity:

Component Name	LD50	LC50
Soybean oil	Not established	Not established

Reproductive Effects	Teratogenicity	Mutagenicity	Embryotoxicity	Sensitization to Product	Synergistic Products
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: No data available.

Mobility: No data available.

Degradability: No data available.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Any release equal to or exceeding the RQ (if applicable) must be reported to the National Response Center (800-424-8802) and appropriate state and local regulatory agencies as described in 40 CFR 302.6 and 40 CFR 355.40 respectively. Failure to report may result in substantial civil and criminal penalties. State & local regulations may be more restrictive than federal regulations.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Not Dangerous Goods

Safety Data Sheet

Soybean Oil

Contains:

Hazard Class and Label:

Identification Number:

Packaging Group:

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
N/A	N/A	N/A	N/A	N/A

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 0

HMIS Flammability: 1

HMIS Reactivity: 0

Additional:

Safety Data Sheet

Soybean Oil

Specification Information

Department issuing data sheet:

Email address:

Training necessary:

Disclaimer:

Safety Data Sheet

Tert Butyl Alcohol

SECTION I - IDENTIFICATION

	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtrec :..... (800) 424-9300
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Product Number	KS0070
Product Name	Tert Butyl Alcohol
Synonyms	tert-Butanol, Trimethyl carbinol, 2-Methyl-2-propanol
CAS Number	75-65-0
Date Prepared	6/28/2016
Revision Number	
Recommended Use	Laboratory chemicals, Synthesis of substances

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Flammable Liquids	Category 2
Serious Eye Damage/Eye Irritation	Category 2A
Acute Toxicity, Inhalation	Category 4
Specific target organ toxicity, single exposure, R	Category 3

DANGER!

GHS LABEL:



Hazard Statements

H225	Highly flammable liquid and vapor
H319	Causes serious eye irritation
H332	Harmful if inhaled
H335	May cause respiratory irritation

Safety Data Sheet

Tert Butyl Alcohol

Precautionary Statements

P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition, sources. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/light.../ equipment, etc.
P242	Use only non-sparking tools.
P243	Take precautionary measures to prevent static discharge.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash... thoroughly after handling.
P271	Use only outdoors or in a well-ventilated are.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
P312	Call a POISON CENTER or a doctor/physician if you feel unwell.
P337+313	If eye irritation persists get medical advice/attention.
P370+378	In case of fire: Use(See Section 5 of SDS) to extinguish.
P403+233	Store in a well ventilated place. Keep container tightly closed.
P403+235	Store in a well ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
tert- Butyl Alcohol	75-65-0	<= 100%	100 ppm	100 ppm

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Safety Data Sheet

Tert Butyl Alcohol

- Skin contact:** Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.
- Inhalation:** Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.
- Ingestion:** Get medical attention IMMEDIATELY.
Do NOT induce vomiting to an unconscious or convulsing person.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards: Flash back possible over considerable distance.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

Environmental Precautions: Contain spill if it can be done with minimal risk. Prevent liquid from entering drains, sewers or waterways. Notify proper authorities.

Methods for Cleaning Up: Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

SECTION VII - HANDLING AND STORAGE

- Handling and Storage:**
- Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.
 - Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Safety Data Sheet

Tert Butyl Alcohol

Component Name	CAS #	OSHA PEL	ACGIH TLV
tert- Butyl Alcohol	75-65-0	100 ppm	100 ppm

Engineering Controls: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Monitoring: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking, using the lavatory and at the end of the working period. Remove contaminated clothing and protective equipment before entering eating areas.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Complete suit protecting against chemicals, they type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid, colorless
Odor	No data available
pH@25°C	No data available
Melting/Freezing Point	23 - 26 °C (73 - 79 °F)
Flashpoint	11 °C (52 °F)
Specific Gravity	0.775 g/mL at 25 °C (77 °F)
Solubility	completely miscible
Auto-Ignition Temperature	No data available
Decomposition Temperature	No data available
VOC Content	No data available
Odor Threshold	No data available
Boiling Range	83 °C (181 °F)
Evaporation Point	No data available
Flammable Limits - Upper	8 %(V)
Flammable Limits - Lower	2.4 %(V)
Vapor Pressure	41 hPa (31 mmHg) at 20 °C (68 °F)
Vapor Density (Air=1)	2.56
Viscosity	No data available

Safety Data Sheet

Tert Butyl Alcohol

SECTION X - STABILITY AND REACTIVITY

- Stability:** Stable under normal conditions.
- Conditions to Avoid:** Extreme heat , flame, sparks and other ignition sources.
- Hazardous Decomposition/Byproducts:** CO and CO₂ and unidentified organic compounds may form during combustion.
- Hazardous Polymerization:** No information available.
- Polymerization Conditions to Avoid:** None known.
- Incompatibilities:** Strong oxidizing agents, Copper, Alkali metals, Aluminum

SECTION XI - TOXICOLOGICAL INFORMATION

- Likely Route of Exposure:** Routes of entry: inhalation, skin & eyes, ingestion, skin absorption
- Inhalation:** No data available.
- Eye Contact:** This material can cause significant eye irritation.
- Skin Contact:** May cause mild skin irritation, redness, itching and inflammation.
- Ingestion:** No data available.
- Acute Toxicity Value:** See Health Hazards below.
- Chronic (Long Term) Effects:** See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
tert- Butyl Alcohol	Oral - rat - 2743 mg/kg; Dermal - rabbit - > 2,000mg/kg	Not Established

Reproductive Effects Not Applicable

Safety Data Sheet

Tert Butyl Alcohol

Teratogenicity	Not Applicable
Mutagenicity	Not Applicable
Embryotoxicity	Not Applicable
Sensitization to Product	Not Applicable
Synergistic Products	Not Applicable
Carcinogenicity	Not a known carcinogen

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Information not available.

Mobility: No data available.

Degradability: Readily biodegradable.

BioAccumulation: Does not accumulate or biomagnify in the environment.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow Federal, State and Local Regulations. Waste treatment methods: Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Butanols

Contains:

Hazard Class and Label: 3

Identification Number: UN1120

Packaging Group: II

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

Safety Data Sheet

Tert Butyl Alcohol

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X	X	X	N/A	N/A

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 2

HMIS Flammability: 3

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

Disclaimer: The information contained herein is based upon data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ksolv, Inc. assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by this material. Such vendees, users, or third parties assume all risks associated with use of this product.

Safety Data Sheet
Tetraethylene Glycol

SECTION I - IDENTIFICATION

	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtrec :..... (800) 424-9300
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Product Number 10035
Product Name Tetraethylene Glycol
Synonyms Tetra(ethylene glycol); Bis[2-(2-hydroxyethoxy)ethyl] ether; Tetraglycol
CAS Number 112-60-7
Date Prepared 9/16/2015
Revision Number 9/16/2015
Recommended Use Industrial Use Only

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Not a Hazardous Substance or Mixture

No Hazards

GHS LABEL:

Hazard Statements

NC Not a Hazardous Substance or Mixture

Safety Data Sheet

Tetraethylene Glycol

Precautionary Statements

NC	Not a Hazardous Substance or Mixture
P102	Keep out of reach of children.
P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition, sources. No smoking.
P243	Take precautionary measures to prevent static discharge.
P270	Do not eat, drink or smoke when using this product.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Tetraethylene Glycol	112-60-7	100		

SECTION IV - FIRST AID MEASURES

- Contact with eyes:** Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
- Skin contact:** Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.
- Inhalation:** Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.
- Ingestion:** If swallowed. Wash out mouth thoroughly with water and give plenty of water to drink. Give large quantities of water. Never give anything by mouth to an unconscious person.

SECTION V - FIREFIGHTING MEASURES

- Suitable Extinguishing Media:** Carbon Dioxide, dry-chemical or universal type spray foam.
- Special Fire Fighting Procedures** Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.
- Unusual Fire Fighting Hazards:** Avoid possible spontaneous combustion by proper disposal.

Safety Data Sheet
Tetraethylene Glycol

SECTION VI - ACCIDENTAL RELEASE MEASURES

- Personal Precautions:** Any/all persons dealing with the spill should wear appropriate personal protective equipment. Keep others away from spill/leak. Restrict access to area until the spill has been cleaned up.
- Environmental Precautions:** Prevent liquid from entering drains, sewers or waterways.
Contain spill if it can be done with minimal risk.
Notify proper authorities.
- Methods for Cleaning Up:** Using only non-sparking tools and explosion proof equipment, collect spill on absorbent material and put into approved container.

SECTION VII - HANDLING AND STORAGE

- Handling and Storage:**
- "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld, braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources.
 - Keep containers tightly closed in a dry and well-ventilated place.
 - Avoid prolonged breathing of mist or vapor. Wash thoroughly after handling.
 - NFPA Class III B storage.
 - Do not redistribute empty containers.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Tetraethylene Glycol	112-60-7		

Engineering Controls: Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.

Monitoring: Follow accepted work practices for handling a flammable material.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Wear safety glasses with un-perforated side shields.
Impervious apron and work boots recommend where splashing may occur.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

Safety Data Sheet
Tetraethylene Glycol

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, viscous Liquid
Odor	-
pH@25°C	-
Melting/Freezing Point	-
Flashpoint	360°F, COC
Specific Gravity	1.125
Solubility	100%
Auto-Ignition Temperature	-
Decomposition Temperature	-
VOC Content	-
Odor Threshold	-
Boiling Range	IBP 314°C
Evaporation Point	Not Established
Flammable Limits - Upper	no data available
Flammable Limits - Lower	no data available
Vapor Pressure	<0.01 mmHg @ 20°C
Vapor Density (Air=1)	6.71 (Air=1)
Viscosity	-

SECTION X - STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: None

Hazardous Decomposition/Byproducts: CO, CO₂, and noxious smoke under extreme fire conditions

Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None known.

Incompatibilities: Strong acids. Strong bases. Strong oxidizers

Safety Data Sheet
Tetraethylene Glycol

SECTION XI - TOXICOLOGICAL INFORMATION

- Likely Route of Exposure:** Routes of entry: inhalation, skin & eyes, ingestion, skin absorption
- Inhalation:** May be irritating to mucous membranes and respiratory tract
Low to moderate degree of toxicity by inhalation.
- Eye Contact:** Causes eye irritation including stinging, watering and redness which may result in corneal injury.
- Skin Contact:** Contact may cause mild skin irritation including redness, burning and drying/cracking of the skin.
redness, itching or swelling
- Ingestion:** Aspiration hazard. Can enter the lungs during swallowing or vomiting and cause chemical pneumonia and edema.
- Acute Toxicity Value:** See Health Hazards below.
- Chronic (Long Term) Effects:** See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Tetraethylene Glycol		

- Reproductive Effects** Not Applicable
- Teratogenicity** Not Applicable
- Mutagenicity** Not Applicable
- Embryotoxicity** Not Applicable
- Sensitization to Product** Not Applicable
- Synergistic Products** Not Applicable
- Carcinogenicity** Not Listed as a Carcinogen

SECTION XII - ECOLOGICAL INFORMATION

- Ecotoxicity:** Information not available.
- Mobility:** Information not available.

Safety Data Sheet
Tetraethylene Glycol

Degradability: Readily biodegradeable.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow Federal, state, and local regulations. Not a RCRA hazardous waste if uncantaminated.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Not Regulated

Contains:

Hazard Class and Label: 0

Identification Number:

Packaging Group:

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X	X			

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

Safety Data Sheet
Tetraethylene Glycol

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 0

HMIS Flammability: 1

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

Disclaimer: The information contained herein is based upon data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ksolv, Inc. assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by this material. Such vendees, users, or third parties assume all risks associated with use of this product.

SAFETY DATA SHEET

Version 6.3
Revision Date 01/15/2020
Print Date 05/30/2020

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : 1-Tridecanol

Product Number : T57630
Brand : Aldrich
CAS-No. : 112-70-9

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.
3050 Spruce Street
ST. LOUIS MO 63103
UNITED STATES

Telephone : +1 314 771-5765
Fax : +1 800 325-5052

1.4 Emergency telephone number

Emergency Phone # : +1-703-527-3887

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word : Warning

Hazard statement(s)

H315 : Causes skin irritation.
H319 : Causes serious eye irritation.
H335 : May cause respiratory irritation.

Precautionary statement(s)	
P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before reuse.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	: Tridecyl alcohol
Formula	: C ₁₃ H ₂₈ O
Molecular weight	: 200.36 g/mol
CAS-No.	: 112-70-9
EC-No.	: 203-998-8

Component	Classification	Concentration
Tridecan-1-ol		
	Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3; H315, H319, H335	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

Storage class (TRGS 510): 12: Non Combustible Liquids

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | |
|---|---|
| a) Appearance | Form: liquid
Colour: colourless |
| b) Odour | No data available |
| c) Odour Threshold | No data available |
| d) pH | No data available |
| e) Melting point/freezing point | Melting point/range: 29 - 34 °C (84 - 93 °F) - lit. |
| f) Initial boiling point and boiling range | 155 - 156 °C 311 - 313 °F at 20 hPa - lit. |
| g) Flash point | > 113 °C (> 235 °F) - closed cup |
| h) Evaporation rate | No data available |
| i) Flammability (solid, gas) | No data available |
| j) Upper/lower flammability or explosive limits | No data available |
| k) Vapour pressure | No data available |
| l) Vapour density | No data available |
| m) Relative density | 0.822 g/mL at 25 °C (77 °F) |
| n) Water solubility | No data available |
| o) Partition coefficient: n-octanol/water | No data available |
| p) Auto-ignition temperature | No data available |
| q) Decomposition temperature | No data available |
| r) Viscosity | No data available |
| s) Explosive properties | No data available |
| t) Oxidizing properties | No data available |

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong oxidizing agents, Strong bases

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - No data available

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

No data available

Dermal: No data available

No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

Reproductive toxicity

No data available

No data available

Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: YD4200000

SECTION 12: Ecological information

12.1 Toxicity

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

SECTION 15: Regulatory information**SARA 302 Components**

This material does not contain any components with a section 302 EHS TPQ.

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

Tridecan-1-ol	CAS-No. 112-70-9	Revision Date
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SECTION 16: Other information**Further information**

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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Version: 6.3

Revision Date: 01/15/2020

Print Date: 05/30/2020

Safety Data Sheet
Triethanolamine 99%

SECTION I - IDENTIFICATION



K-Solv Chemicals, LLC
9660 Katy Freeway
Houston, TX 77055
(866) 576-5846
Chemtec :..... (800) 424-9300

Product Number 01186
Product Name Triethanolamine 99%
Synonyms TEA
CAS Number 102-71-6
Date Prepared 7/7/2015
Revision Number 7/7/2015
Recommended Use Industrial Use Only

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Not a Hazardous Substance or Mixture

No Hazards

GHS LABEL:

Hazard Statements

NC Not a Hazardous Substance or Mixture

Safety Data Sheet
Triethanolamine 99%

Precautionary Statements

NC	Not a Hazardous Substance or Mixture
P102	Keep out of reach of children.
P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition, sources. No smoking.
P243	Take precautionary measures to prevent static discharge.
P270	Do not eat, drink or smoke when using this product.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Triethanolamine	102-71-6	<=100%	Not Established	5 mg/m3

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

Inhalation: Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.

Ingestion: If swallowed. Wash out mouth thoroughly with water and give plenty of water to drink.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Carbon Dioxide, dry-chemical or universal type spray foam.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards:

Safety Data Sheet
Triethanolamine 99%

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Environmental Precautions: Contain spill if it can be done with minimal risk. Prevent liquid from entering drains, sewers or waterways. Notify proper authorities.

Methods for Cleaning Up: Using only non-sparking tools and explosion proof equipment, collect spill on absorbent material and put into approved container.

SECTION VII - HANDLING AND STORAGE

- Handling and Storage:**
- "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld, braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources.
 - Keep containers tightly closed in a dry and well-ventilated place.
 - Avoid prolonged breathing of mist or vapor. Wash thoroughly after handling.
 - NFPA Class III B storage.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Triethanolamine	102-71-6	Not Established	5 mg/m3

Engineering Controls: Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.

Monitoring: Follow accepted work practices for handling a flammable material.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Impervious solvent resistant gloves. Impervious apron and work boots recommend where splashing may occur.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

Safety Data Sheet
Triethanolamine 99%

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear Colorless to Light Yellow Liquid
Odor	Ammoniacal
pH@25°C	-
Melting/Freezing Point	68°F
Flashpoint	179°C, 354°F
Specific Gravity	1.126
Solubility	Complete
Auto-Ignition Temperature	-
Decomposition Temperature	-
VOC Content	85% (7.93#/gal)
Odor Threshold	-
Boiling Range	336.1°C
Evaporation Point	N/D
Flammable Limits - Upper	Not Determined
Flammable Limits - Lower	Not Determined
Vapor Pressure	Not Determined
Vapor Density (Air=1)	Not Determined
Viscosity	-

SECTION X - STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: None

Hazardous Decomposition/Byproducts: Toxic gases when reacted with sulfides and sulfites; strong bases and oxidizers

Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None known.

Incompatibilities: Strong acids and oxidizers
Nitrites and Nitrates containing compounds.

Safety Data Sheet
Triethanolamine 99%

SECTION XI - TOXICOLOGICAL INFORMATION

- Likely Route of Exposure:** Routes of entry: inhalation, skin & eyes, ingestion, skin absorption
- Inhalation:** May be irritating to mucous membranes and respiratory tract
Low to moderate degree of toxicity by inhalation.
- Eye Contact:** Causes eye irritation including stinging, watering and redness which may result in corneal injury.
- Skin Contact:** Contact may cause mild skin irritation including redness, burning and drying/cracking of the skin. No harmful effects from skin adsorption are expected.
- Ingestion:** Aspiration hazard. Can enter the lungs during swallowing or vomiting and cause chemical pneumonia and edema.
- Acute Toxicity Value:** See Health Hazards below.
- Chronic (Long Term) Effects:** See Health Hazards above.

Toxicity:

Component Name	LD50	LC50
Triethanolamine	Oral - Mouse - 5,846 mg/kg; Oral - Rat - 5,530 mg/kg; Oral -	Not Established

- Reproductive Effects** Not Applicable
- Teratogenicity** Not Applicable
- Mutagenicity** Not Applicable
- Embryotoxicity** Not Applicable
- Sensitization to Product** Not Applicable
- Synergistic Products** Not Applicable
- Carcinogenicity** Not Listed as a Carcinogen by OSHA or ACGIH

SECTION XII - ECOLOGICAL INFORMATION

- Ecotoxicity:** Information not available.
- Mobility:** Information not available.

Safety Data Sheet
Triethanolamine 99%

Degradability: No data available.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow Federal, state, and local regulations. Not a RCRA hazardous waste if uncontaminated. Under RCRA, it is the responsibility of the user of the product to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because product uses, transformations, mixtures, processes, etc. may render the resulting materials hazardous.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Not Dangerous Goods

Contains:

Hazard Class and Label:

Identification Number:

Packaging Group:

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X	X			

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

Safety Data Sheet

Triethanolamine 99%

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 1

HMIS Flammability: 1

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet:

Email address:

Training necessary:

Disclaimer:

Safety Data Sheet

Turpentine

SECTION I - IDENTIFICATION

 Ksolv	K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtrec :..... (800) 424-9300
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Product Number 12457
Product Name Turpentine
Synonyms
CAS Number 8006-64-2
Date Prepared 12/4/2018
Revision Number
Recommended Use Adhesives, sealants, manufacture of paints, varnishes and similar coatings, printing ink

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Flammable Liquids	Category 3
Acute Toxicity, Oral	Category 4
Aspiration Hazard	Category 1
Acute Toxicity, Dermal	Category 4
Skin Corrosion/Irritation	Category 2
Sensitization, Skin	Category 1
Serious Eye Damage/Eye Irritation	Category 2A
Acute Toxicity, Inhalation	Category 4

DANGER!

GHS LABEL:



Hazard Statements

H226	Flammable liquid and vapor
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H312	Harmful in contact with skin
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation

Safety Data Sheet

Turpentine

H332 Harmful if inhaled

Precautionary Statements

P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition, sources. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/light.../ equipment, etc.
P242	Use only non-sparking tools.
P243	Take precautionary measures to prevent static discharge.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash... thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated are.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P301+312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302+352	IF ON SKIN: Wash with plenty of water/...
P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water or shower.
p304+340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so - continue rinsing.
P312	Call a POISON CENTER or a doctor/physician if you feel unwell.
P321	Specific treatment (see ... on this label).
P330	Rinse mouth.
P331	Do NOT induce vomiting.
P332+313	If skin irritation occurs: get medical advice/attention.
P333+313	If skin irritation or a rash occurs: Get medical advice/attention.
P337+313	If eye irritation persists get medical advice/attention.
P362+364	Take off immediately all contaminated clothing and wash it before reuse.
P370+378	In case of fire: Use(See Section 5 of SDS) to extinguish.

Safety Data Sheet

Turpentine

- P403+235 Store in a well ventilated place. Keep cool.
- P405 Store locked up.
- P501 Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Turpentine	8006-64-2	100%	560 mg/m3	TWA: 20ppm

SECTION IV - FIRST AID MEASURES

- Contact with eyes:** Immediately flush eyes with large amounts of water or saline solution for at least 15 minutes, occasionally lifting the upper and lower lids. Remove contact lenses, if present and easy to do, after first 2 minutes continue rinsing. If irritation persists, seek medical attention, preferably from an ophthalmologist.
- Skin contact:** Take off Contaminated clothes, wash skin with plenty of water or have a shower (during minimum 15 minutes) and if necessary take medical advice. If skin irritation occurs; Get medical advice/attention.
- Inhalation:** Move to fresh air. If symptoms persist, call a physician.
- Ingestion:** Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special Fire Fighting Procedures Do not allow run-off from fire fighting to enter drains or water course.

Unusual Fire Fighting Hazards:

Safety Data Sheet

Turpentine

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear suitable protective equipment. Do not touch damaged containers or spilled material unless wearing suitable protective clothing.
Remove all sources of ignition.

Environmental Precautions: Prevent liquid from entering drains, sewers or waterways.

Methods for Cleaning Up: Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

SECTION VII - HANDLING AND STORAGE

Handling and Storage:

- Store in cool, dry, ventilated area away from any heat source. Storage area should be clearly identified and free of obstruction. Keep containers tightly closed and in an upright position when not in use.
- "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld, braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources.
- Do not eat, drink or smoke in areas where this material is used.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Turpentine	8006-64-2	560 mg/m ³	TWA: 20ppm

Engineering Controls: Provide local exhaust or general room ventilation to minimize dust and/or vapor concentrations. Electrical equipment should be grounded and conform to applicable electrical code.

Monitoring: Safety glasses. Gloves. Insufficient ventilation: Wear respiratory protection.

Personal Protective Equipment (PPE)

Eye Protection: Chemical goggles or safety glasses.

Skin Protection: Use PPE that is chemical resistant to the product and prevents skin contact.

Respiratory Protection: In the case of insufficient ventilation, wear suitable respiratory equipment.

Safety Data Sheet

Turpentine

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear-Slight Yellow Liquid
Odor	Pine Characteristic
pH@25°C	NDA
Melting/Freezing Point	NDA
Flashpoint	97°F
Specific Gravity	0.86
Solubility	Slightly Soluble
Auto-Ignition Temperature	NDA
Decomposition Temperature	NDA
VOC Content	NDA
Odor Threshold	NDA
Boiling Range	154°C - 195°C
Evaporation Point	NDA
Flammable Limits - Upper	NDA
Flammable Limits - Lower	NDA
Vapor Pressure	133 Pa
Vapor Density (Air=1)	4.84
Viscosity	NDA

SECTION X - STABILITY AND REACTIVITY

Stability:	Stable at ambient temperature and under normal conditions of use.
Conditions to Avoid:	Stable under recommended storage conditions. Heat, flames, and sparks. Extremes of temperature and direct sunlight.
Hazardous Decomposition/Byproducts:	CO, CO ₂ , and various hydrocarbons under combustion conditions.
Hazardous Polymerization:	No information available.
Polymerization Conditions to Avoid:	No information available.
Incompatibilities:	Strong oxidizing agents Halogens

Safety Data Sheet

Turpentine

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: Very harmful.

Eye Contact: This material can cause significant eye irritation.

Skin Contact: Repeated or prolonged contact with large amounts of this material may result in absorption through the skin to produce toxic effects.
May cause skin irritation

Ingestion: Death can result from ingestion.

Acute Toxicity Value:

Chronic (Long Term) Effects: No data available.

Toxicity:

Component Name	LD50	LC50
Turpentine	Dermal: Rabbit: 1100mg/kg , Oral: Rat: 500mg/kg	Rat: 3590 mg/L , 1 Hour

Reproductive Effects NDA

Teratogenicity NDA

Mutagenicity NDA

Embryotoxicity NDA

Sensitization to Product NDA

Synergistic Products NDA

Carcinogenicity NDA

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Very toxic to aquatic life.

Mobility: No data available.

Safety Data Sheet

Turpentine

Degradability: No data available.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Turpentine

Contains:

Hazard Class and Label: Class 3

Identification Number: UN1299

Packaging Group: III

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:.....

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

No chemicals in this material are subject to the reporting requirements.

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

CALIFORNIA PROPOSITION 65:

Safety Data Sheet

Turpentine

No chemicals in this material are subject to the reporting requirements.

SECTION XVI - OTHER INFORMATION

HMIS Health: 2

HMIS Flammability: 3

HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

Disclaimer: The information contained herein is based upon data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ksolve, Inc. assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by this material. Such vendees, users, or third parties assume all risks associated with use of this product.

Safety Data Sheet
VAR SOL™ 1 NAPHTHA

SECTION I - IDENTIFICATION

 Ksolv	<p>K-Solv Chemicals, LLC 9660 Katy Freeway Houston, TX 77055 (866) 576-5846 Chemtrec :..... (800) 424-9300</p>
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Product Number	11200
Product Name	VAR SOL™ 1 NAPHTHA
Synonyms	Stoddard Solvent
CAS Number	Multiple
Date Prepared	9/21/2015
Revision Number	9/15/2015
Recommended Use	Solvent

SECTION II - HAZARDOUS IDENTIFICATION

GHS CLASSIFICATION:

Classification

Flammable Liquids	Category 3
Aspiration Hazard	Category 1
Specific target organ toxicity, single exposure, N	Category 3
Carcinogenicity	Category 2

DANGER!

GHS LABEL:



Hazard Statements

H226	Flammable liquid and vapor
H304	May be fatal if swallowed and enters airways
H336	May cause dizziness or drowsiness
H351	Suspected of causing cancer

Safety Data Sheet
VAR SOL™ 1 NAPHTHA

Precautionary Statements

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P210 Keep away from heat, hot surfaces, sparks, open flames, and other ignition, sources. No smoking.
- P233 Keep container tightly closed.
- P240 Ground/bond container and receiving equipment.
- P241 Use explosion-proof electrical/ventilating/light.../ equipment, etc.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures to prevent static discharge.
- P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
- P271 Use only outdoors or in a well-ventilated are.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P301+310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- P303+361+353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water or shower.
- P304+340 IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
- P308+313 IF exposed or concerned: get medical advice/attention.
- P312 Call a POISON CENTER or a doctor/physician if you feel unwell.
- P331 Do NOT induce vomiting.
- P370+378 In case of fire: Use(See Section 5 of SDS) to extinguish.
- P403+233 Store in a well ventilated place. Keep container tightly closed.
- P403+235 Store in a well ventilated place. Keep cool.
- P405 Store locked up.
- P501 Dispose of contents/container to: local/regional/national/international regulations.

SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS

The precise composition of this product is proprietary information. In the event of a medical emergency, a complete disclosure will be provided to medical personnel.

Component Name	CAS #	Component%	OSHA PEL	ACGIH TLV
Naphthalene	91-20-3	0.1-0.5	10 ppm	10 ppm
1,2,4-Trimethylbenzene	95-63-6	1-5	25 ppm	25 ppm
Stoddard Solvent	8052-41-3	100	500 ppm	100 ppm
Ethylbenzene	100-41-4	0.1-0.5	100 ppm	100 ppm
Toluene	108-88-3	0.1-<1	200 ppm	100 ppm

Safety Data Sheet
VAR SOL™ 1 NAPHTHA

SECTION IV - FIRST AID MEASURES

Contact with eyes: Wash immediately and continuously with flowing water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use.

Inhalation: Remove victim to fresh air. Administer oxygen or artificial respiration if breathing is affected or stopped. Seek immediate medical attention.

Ingestion: If swallowed. Wash out mouth thoroughly with water and give plenty of water to drink.

SECTION V - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Carbon Dioxide, dry-chemical or universal type spray foam.

Special Fire Fighting Procedures Use self-contained breathing apparatus and full bunker gear in fire areas. Evacuate all unprotected personnel from area. Keep containers cool with water fog to minimize swelling taking care not to spread flames with water used for cooling.

Unusual Fire Fighting Hazards: Product is flammable and may be ignited by heat, sparks, flames or other sources of ignition (e.g., static electricity, pilot lights or mechanical/electrical equipment). Vapors are heavier than air and may accumulate in low areas. Vapors may travel considerable distance to a source of ignition where they can ignite, flashback or explode. May create vapor/air explosion hazard indoors, outdoors or in sewers. If container is not properly cooled, it can explode in the heat of a fire.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: Keep all sources of ignition and hot metal surfaces away from spill or release. Evacuate all unprotected personnel from the area.

Environmental Precautions: Contain spill if it can be done with minimal risk. Prevent liquid from entering drains, sewers or waterways. Notify proper authorities.

Methods for Cleaning Up: Use foam on spills to minimize vapors. Using only non-sparking tools and explosion proof equipment, collect spill on absorbent material and put into approved container.

SECTION VII - HANDLING AND STORAGE

Handling and Storage: • NFPA Class II storage.

Safety Data Sheet
VAR SOL™ 1 NAPHTHA

- Avoid prolonged breathing of mist or vapor. Wash thoroughly after handling. Vent container carefully before opening. Bond and ground all equipment when transferring from one vessel to another. The use of explosion-proof equipment is recommended. "Empty" containers retain residue and/or vapor and may be dangerous. Do not cut, weld, braze solder, drill, grind or expose such containers to heat, flames, sparks, or other ignition sources. Keep containers tightly closed when not in use.

SECTION VIII - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component Name	CAS #	OSHA PEL	ACGIH TLV
Naphthalene	91-20-3	10 ppm	10 ppm
1,2,4-Trimethylbenzene	95-63-6	25 ppm	25 ppm
Stoddard Solvent	8052-41-3	500 ppm	100 ppm
Ethylbenzene	100-41-4	100 ppm	100 ppm
Toluene	108-88-3	200 ppm	100 ppm

Engineering Controls: Adequate local or mechanical to reduce vapor or mist to below the PEL or TLV.

Monitoring: Follow accepted work practices for handling a flammable material. Do not eat, drink or smoke in areas where this chemical is used or stored. Have eye wash stations and safety showers readily available.

Personal Protective Equipment (PPE)

Eye Protection: Goggles or approved OSHA device with side shields; do not wear contact lenses when handling this product.

Skin Protection: Impervious solvent resistant gloves. Impervious apron and work boots recommend where splashing may occur.

Respiratory Protection: Use the proper respirator in areas where the chemical exposure is unknown or above the OSHA PEL or ACGIH TLV.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Safety Data Sheet
VAR SOL™ 1 NAPHTHA

Appearance	Colorless Liquid
Odor	petroleum/solvent
pH@25°C	-
Melting/Freezing Point	-
Flashpoint	43°C., 109°F
Specific Gravity	0.79
Solubility	Negligible
Auto-Ignition Temperature	240°C., 464°F
Decomposition Temperature	-
VOC Content	100% (6.58 #/gal)
Odor Threshold	-
Boiling Range	158-204°C., 316-399°F
Evaporation Point	0.14 (Butyl Acetate=1)
Flammable Limits - Upper	5.6%
Flammable Limits - Lower	0.7%
Vapor Pressure	1.21 mmHg@20°C
Vapor Density (Air=1)	5
Viscosity	1.02cSt

SECTION X - STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: Extreme heat , flame, sparks and other ignition sources.

Hazardous Decomposition/Byproducts: Oxides of carbon and various hydrocarbons under extreme fire conditions.

Hazardous Polymerization: Will not occur.

Polymerization Conditions to Avoid: None known.

Incompatibilities: Strong oxidizing agents

Safety Data Sheet
VAR SOL™ 1 NAPHTHA

SECTION XI - TOXICOLOGICAL INFORMATION

Likely Route of Exposure: Routes of entry: inhalation, skin & eyes, ingestion, skin absorption

Inhalation: May be irritating to mucous membranes and respiratory tract

Eye Contact: Causes eye irritation including stinging, watering and redness which may result in corneal injury.

Skin Contact: Contact may cause mild skin irritation including redness, burning and drying/cracking of the skin. No harmful effects from skin adsorption are expected.

Ingestion: Aspiration hazard. Can enter the lungs during swallowing or vomiting and cause chemical pneumonia and edema.

Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects:

Toxicity:

Component Name	LD50	LC50
Naphthalene	Oral - rat - 490.0 mg/kg; Dermal - rabbit - 20,000 mg/kg	Inhalation - rat - 1 h - > 340 mg/m ³
1,2,4-Trimethylbenzene	Oral - Rat - male - 6,000 mg/kg	Inhalation - rat - 4H/18 mg/l
Stoddard Solvent	Not Established	Not Established
Ethylbenzene	Oral - rat - 3500 mg/kg - Dermal - rabbit - 15,500 mg/kg	Inhalation -rat - 4H/18 mg/l
Toluene	Oral - Rat - > 5,580 mg/kg; Dermal - Rabbit - 12,196 mg/kg	Inhalation - Rat - 4 h - 12,500 - 28,800 mg/m ³

Reproductive Effects Not Applicable

Teratogenicity Not Applicable

Mutagenicity Not Applicable

Embryotoxicity Not Applicable

Sensitization to Product Not Applicable

Synergistic Products Not Applicable

Safety Data Sheet
VAR SOL™ 1 NAPHTHA

Carcinogenicity contains Category 2 carcinogen at 0.1 and 1.0 wt.%

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity: Information not available.

Mobility: Information not available.

Degradability: No data available.

BioAccumulation: No data available.

SECTION XIII - WASTE DISPOSAL CONSIDERATIONS

Follow Federal, state, and local regulations. This substance, when discarded, is a hazardous waste due to its ignitability.

SECTION XIV - TRANSPORT INFORMATION

DOT SHIPPING INFORMATION

Proper Shipping Name: Petroleum Distillates. N.O.S.

Contains: 1,2,4-Trimethylbenzene

Hazard Class and Label: 3

Identification Number: UN 1268

Packaging Group: III

Other Shipping Info:

SECTION XV - REGULATORY INFORMATION

TSCA STATUS:..... The components of this product are listed on the TSCA Inventory

SARA TITLE III SECTION 302/304 EXTREMELY HAZARDOUS SUBSTANCE:

No chemicals in this material are subject to the reporting requirements.

SARA TITLE III SECTION 311/312 HAZARD CATEGORIZATION:

Acute	Chronic	Fire	Pressure	Reactive
X	X	X		

Safety Data Sheet
VAR SOL™ 1 NAPHTHA

SARA TITLE III SECTION 313 SUPPLIER INFORMATION:

Component Name	CAS #	% by wt.
Naphthalene	91-20-3	0.1-0.5
Pseudocumene	95-63-6	1-5
Ethylbenzene	100-41-4	0.1-0.5
Toluene	108-88-3	0.1-<1

CERCLA SECTION 102(a) HAZARDOUS SUBSTANCE:

Component Name	CAS #	% by wt.	RQ (lbs.)
Naphthalene	91-20-3	0.1-0.5	100
Ethylbenzene	100-41-4	0.1-0.5	1,000
Toluene	108-88-3	0.1-<1	1,000

CALIFORNIA PROPOSITION 65:

This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

SECTION XVI - OTHER INFORMATION

HMIS Health: 1
HMIS Flammability: 2
HMIS Reactivity: 0

Additional:

Specification Information

Department issuing data sheet: Compliance Department

Email address: plant@ksolv.com

Training necessary: Training is required per the Occupational Safety and Health Administration (OSHA) Hazard Communication 29 CFR 1910.1200.

Disclaimer:

**HMIS rating involve data and interpretations that vary from company to company. They are intended only for rapid identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this product, all the information contained in this SD must be considered.

Disclaimer: The information contained herein is based upon data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Ksolv, Inc. assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by this material. Such vendees, users, or third parties assume all risks associated with use of this product.

VGAP-801

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations
Version: VGAP801.003

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Family: Alkaline aqueous solution of inorganic and organic corrosion inhibitors.

Product Name: VGAP-801

Product Description: Universal Add Pak Precharged with several different dye package variations

Synonyms: None

1.2. Intended Use of the Product

Inhibitor package for automotive antifreeze or additive package for automotive antifreeze/coolant.

1.3. Name, Address, and Telephone of the Responsible Party

Company

Additives Plus

3412 Pemberton Sq. Blvd.

Suite 2-317

Vicksburg, MS 39180

Tel: 303-916-0639 Fax: 601-714-1602

MSDS on-line: www.additivesplus.com

1.4. Emergency Telephone Number

Emergency Number : CHEMTREC 800-424-9300

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Acute Tox., Oral	4
Eye Damage/Irritation	2A
Skin Corrosion/Irritation	2
STOT, Single	3

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US) :



Signal Word (GHS-US) :

Warning

Hazard Statements (GHS-US) :

H302- Harmful if swallowed
H315- Causes skin irritation
H317- Causes serious eye irritation
H335- May cause respiratory irritation

Precautionary Statements (GHS-US) :

Prevention:
P264- Wash hands/affected area thoroughly after handling.
P270- Do not eat, drink or smoke when using this product.
P280- Wear protective gloves/clothing.
P261- Avoid breathing fumes, mist, vapors or spray.
P271- Use only in well-ventilated area.
Response:
P301+P312- If swallowed: Call a poison center if you feel unwell.
P330- Rinse mouth.
P302+P352- If on skin: Wash with plenty of water.
P321- Specific treatment (See label)

VGAP-801

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

Version: VGAP801.003

P332+P313- If skin irritation occurs get medical advice/attention.
P362+P364-Take off contaminated clothing and wash.
P305+P351+P338-If in eyes rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313-If eye irritation persists: Get medical advice/attention.
P304+P340-If inhaled: Remove person to fresh air and keep comfortable for breathing.
P312-Call a poison center if you feel unwell.
Storage:
P403+P233-Store in a well-ventilated place. Keep container tightly closed.
P405-Store locked up.
Disposal:
P507-Dispose of contents/container in accordance with local, regional, national and international regulations.

2.3. Other Hazards

Not Classified

2.4. Unknown Acute Toxicity (GHS-US)

None of the mixture consists of ingredient(s) of unknown acute toxicity.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable

3.2. Mixture

Name	Product Identifier	% (w/w)	Classification (GHS-US)
Deionized Water	(CAS No) 7732-18-5	Balance	Not Classified
Sodium Nitrite	(CAS No) 7632-00-0	10-20%	Oxidizing solid, 3 Acute Tox., Oral, 3 Acute Tox., Aquatic, 1 Chronic Tox., Aquatic, 1 Eye Irritation, 2A
Proprietary Inhibitors	Not Classified	< 10%	Not Classified
Sodium Hydroxide	(CAS No) 1310-73-2	1%-7%	Skin corrosion/irritation, 1 Serious eye damage/irritation, 1 Acute Tox., Aquatic, 3 Chronic Tox., Aquatic, 3
Silicic Acid, Disodium Salt; Sodium Metasilicate, Pentahydrate	(CAS No) 6834-92-0	1%-7%	Skin corrosion/irritation, 1B Eye damage/irritation, 1 STOT Single Exp., 3 Corrosive to metals, 1
Sodium Tetraborate Pentahydrate	(CAS No) 12179-04-3	5%-15%	Serious eye damage/irritation, 1 Reproductive Tox., 1B STOT Single Exp., 3
2-Phosphono-1, 2, 4-Butanetricarboxylic Acid	(CAS No) 37971-36-1	1%-10%	Corrosive to metals, 1
1H-Benzotriazole,6(OR7)-Methyl-,Sodium Salt(1:1)	(CAS No) 64665-57-2	1%-8%	Acute Tox., Oral, 4 Skin corrosion/irritation, 1 Serious eye damage/irritation, 1 Acute Tox., Aquatic, 3

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Sodium Nitrate	(CAS No) 7631-99-4	1%-5%	Oxidizing Solid, 3 Mildly irritating to eyes, 2B
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*The specific chemical identity and/or exact percentage of composition have been withheld as a trade secret within the meaning of the OSHA Hazard Communication Standard [29 CFR 1910.1200].

*More than one of the ranges of concentration prescribed by Controlled Products Regulations has been used where necessary, due to varying composition.

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible).

Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.

Skin Contact: Remove contaminated clothing. Drench affected area with water or soap and water for at least 15 minutes. Wash contaminated clothing before reuse. Obtain medical attention if irritation develops or persists.

Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

Ingestion: Toxic if swallowed. Call a poison center if you feel unwell.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

General: No known significant effects or critical hazards.

Inhalation: Causes respiratory irritation.

Skin Contact: Not classified.

Eye Contact: Direct contact with the eyes may irritate delicate eye tissue.

Ingestion: Ingestion is likely to cause gastrointestinal irritation or have adverse effects.

Chronic Symptoms: No known significant effects or critical hazards.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If you feel unwell, seek medical advice (show the label where possible).

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: None Noted

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not flammable

Explosion Hazard: Closed containers may rupture or explode due to steam pressure build-up when exposed to extreme heat. Water may be used to cool closed containers.

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire. Under fire conditions, hazardous fumes will be present.

Firefighting Instructions: Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Under fire conditions, may produce fumes, smoke, oxides of carbon and hydrocarbons.

Other Information: Refer to Section 9 for flammability properties.

Reference to Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Avoid all contact with skin, eyes, or clothing.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

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Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Stop leak if safe to do so.

6.2. Environmental Precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Spills should be contained with mechanical barriers. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Practice good housekeeping - spillage can be slippery on smooth surface either wet or dry.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

Incompatible Materials: Strong oxidizing agents, strong acids.

7.3. Specific End Use(s)

Inhibitor package for automotive antifreeze or additive package for automotive antifreeze/coolant.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

Sodium Nitrite	(CAS No) 7632-00-0	10mg/m ³ (TWA ACGIH) 15mg/m ³ (TWA OSHA) 4mg/m ³ (TWA DFG MAKs)
Sodium Hydroxide	(CAS No) 1310-73-2	2mg/m ³ (PEL OSHA) 2mg/m ³ (ACGIH CEILING) 2mg/m ³ (NIOSH CEILING)

8.2. Exposure Controls

Appropriate Engineering Controls: Ensure adequate ventilation, especially in confined areas. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed.

Personal Protective Equipment: Protective Eyewear. Impervious Gloves. Protective Clothing.



Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Where skin contact may occur, chemical-impervious gloves should be worn.

Eye Protection: Chemical goggles or safety glasses. Use chemical goggles or full face shield when the danger of splashing exists.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

Environmental Exposure Controls: Do not allow the product to be released into the environment.

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Consumer Exposure Controls: Do not eat, drink or smoke during use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Slightly cloudy green liquid
Odor	: Amine odor
Odor Threshold	: Not available
pH	: 11.5-13.0
Evaporation Rate	: <1
Melting Point	: Not available
Boiling Point	: 175-330°F
Flash Point	: Not available
Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not available
Lower Flammable Limit	: Not available
Upper Flammable Limit	: Not available
Vapor Pressure	: 12-14mm Hg
Relative Vapor Density at 20 °C	: >1
Relative Density	: Not available
Specific Gravity	: 1.280-1.350
Solubility	: 100%
Partition Coefficient: N-Octanol/Water	: Not available
Viscosity	: Not available
Viscosity, Kinematic	: Not available
Explosive Properties	: Product is not explosive
Explosion Data – Sensitivity to Mechanical Impact	: Not expected to present an explosion hazard due to mechanical impact
Explosion Data – Sensitivity to Static Discharge	: Not expected to present an explosion hazard due to static discharge

SECTION 10: STABILITY AND REACTIVITY

- 10.1. **Reactivity:** Hazardous reactions will not occur under normal conditions.
- 10.2. **Chemical Stability:** Stable under recommended handling and storage conditions (see section 7).
- 10.3. **Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. **Conditions to Avoid:** Direct sunlight, extremely high or low temperatures, heat, hot surfaces, sparks, open flames, incompatible materials, and other ignition sources.
- 10.5. **Incompatible Materials:** Strong oxidizing agents, strong acids.
- 10.6. **Hazardous Decomposition Products:** If involved in a fire the following decomposition products may be generated: Carbon dioxide, carbon monoxide, nitrogen oxides, hydrogen cyanide (possible in reducing atmospheres).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects - Product

Acute Toxicity: Harmful if swallowed.

LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Causes skin irritation.

Eye Damage/Irritation: Causes serious eye irritation.

Respiratory or Skin Sensitization: Not classified

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Germ Cell Mutagenicity: Not classified

Teratogenicity: Not classified

Carcinogenicity: Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): May cause respiratory irritation.

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Airborne concentrations of mist or spray may cause damage to the upper respiratory tract and even to lung tissue. Vapor/fumes are not generated at significant levels until temperature is elevated.

Symptoms/Injuries After Skin Contact: Destructive to tissues contacted and produces irritation. The severity and extent of damage increases with length of contact time.

Symptoms/Injuries After Eye Contact: Direct contact with the eyes may be irritating.

Symptoms/Injuries After Ingestion: Swallowing can cause severe burns and tissue perforation of mucous membranes of the mouth, throat, esophagus and stomach.

Chronic Symptoms: Not Classified

11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Sodium Tetraborate Pentahydrate (CAS No) 12179-04-3	
Oral/Rat	3305mg/kg
Sodium Nitrite (CAS No) 7632-00-0	
Oral/Rat	85mg/kg
Silicic Acid, Disodium Salt; Sodium Metasilicate, Pentahydrate (CAS No) 6834-92-0	
Oral/Rat	1152mg/kg

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General: Not toxic to aquatic life.

12.2. Persistence and Degradability

Not available

12.3. Bioaccumulative Potential

Not available

12.4. Mobility in Soil

Not available

12.5. Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Sewage Disposal Recommendations: Do not empty into drains; dispose of this material and its container in a safe way. Do not empty into drains. Do not dispose of waste into sewer.

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT

Shipping Name: Corrosive Liquids, Basic, Inorganic, N.O.S., Contains:(Potassium Hydroxide)

Hazard Class: 8 (Corrosive Liquids, Basic, Inorganic, N.O.S.)

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Packing Group: III

Label: Danger: corrosive; causes burns and irritation to skin and eyes

DOT Class: 7D

14.2. In Accordance with IMDG Not regulated for transport

14.3. In Accordance with IATA Not regulated for transport

14.4. In Accordance with TDG Not regulated for transport

SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

SARA Title III	Reportable
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15.2. US State Regulations

None noted

15.3. Canadian Regulations

WHMIS Classification	Not Classified
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This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 07/26/2015

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

Party Responsible for the Preparation of This Document

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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

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